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OFFICIAL REPORT

OF THE

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CALCUTTA INTERNATIONAL EXHIBITION

1883-84.

Compiled under the orders of the Executive Committee.

VOLUME I.

Calcutta:
BENGAL SECRETARIAT PRESS.
1885.

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PREFACE.

THE following report has been prepared under the instructions of the Executive Committee appointed by the Government of Bengal to superintend the affairs of the Calcutta International Exhibition of 1883-84. The Committee have endeavoured, so far as possible, to secure an accurate account of each Court, by requesting the officer in charge to prepare the chapter of the report relating to it, and the Committee are much indebted to these gentlemen for the readiness with which they have responded to the appeal made to them. With respect to the chapters thus supplied, the duty of the Committee has been limited to the amount of editing requisite to secure uniformity. Unfortunately, however, in the case of some Courts there was no officer in charge to whom the Committee could apply, and other Courts were in charge of gentlemen who were unable, from want of leisure or other causes, to furnish any account of them. In these cases endeavours have been made, so far as possible, to supply the deficiencies from such materials as were available in the Committee's Office; but materials have not in every instance been forthcoming, and some Courts have necessarily been left undescribed. In order to render the report as complete as possible, chapters have been added to it giving an account of the history and progress of the Exhibition, the buildings, the organisation of the juries, and the financial arrangements.

The Executive Committee would here acknowledge the assistance rendered to them by the Indian newspapers, from whose columns considerable information has been extracted and used in the Report.

M. H. JACKSON,
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25th June 1885.

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CALCUTTA INTERNATIONAL EXHIBITION, 1883-84.

CHAPTER I.

Origin of the Exhibition.

OPENING AND CLOSING CEREMONIES.

THE Calcutta Exhibition of 1883-84 was the first attempt made in India to hold an exhibition of an international character. Exhibitions on a smaller scale had been held in various parts of India, but these were generally of a local character; and where their scope was not purely provincial, no attempt was made to include in them specimens of other than Indian arts and manufactures. For the improvement of Indian art these exhibitions were not without considerable value, but they necessarily did not embrace the other important objects of an exhibition,—the bringing of distant countries into closer commercial union with India and the development of new branches of industry. This could only be done by means of an exhibition on a much larger scale than any previously attempted in India. The idea of holding such an exhibition was originated by Mr. Jules Joubert, a gentleman of French extraction, naturalised in New South Wales, who visited Calcutta in the early part of the cold weather of 1882-83 and laid his plans before the Lieutenant-Governor of Bengal, who forwarded them for the sanction of the Government of India. The idea was taken up warmly by the Government of India, and it was decided that an Exhibition should be held at Calcutta under the management of the Government of Bengal. The general scope of the Exhibition, its objects, and the method proposed for its management, were indicated in

the following resolution issued by the Lieutenant-Governor on the 16th of January 1883 :—

Dated Calcutta, the 16th January 1883.

RESOLUTION—By the Government of Bengal, Revenue Department, Miscellaneous (F).

READ—

A letter, dated the 18th December 1882, from Mr. Jules Joubert, forwarding a prospectus of an international exhibition which he proposes to hold in Calcutta in December, January, and February 1883-84, and asking the sanction and support of the Government of Bengal in his undertaking.

A letter, No. 2921—240 Mis (F.), dated the 22nd idem, to Mr. Joubert, conveying the approval of the Lieutenant-Governor to the project and sanctioning the holding of the exhibition.

A letter, No. 2922—241 Mis. (F.), of the same date, to the Government of India, forwarding a copy of the correspondence inviting the co-operation of the Government of India, and suggesting that other local Governments should be asked to assist in securing the adequate representation at the exhibition of the natural products and manufactures of all parts of India.

A letter, No. 318Ex.—16-11, dated 28th idem, stating that the Government of India will be pleased to aid the exhibition in the manner proposed.

From the papers cited in the preamble, it will be seen that Mr. Jules Joubert, the promoter of the recent International Exhibition in New Zealand, proposes, with the sanction of the Government, to hold a similar exhibition in Calcutta during the next cold season. The Lieutenant-Governor having considered the proposal, has had much satisfaction in granting his sanction and support to the undertaking, which is likely, in Mr. Rivers Thompson's opinion, to have a very important effect in developing and promoting the commercial prosperity of India. The good which resulted to the Australian and other colonies from recent exhibitions is well known, and there is every reason to believe that a similar undertaking will do much to attract the attention of foreign countries to the great natural wealth of India and to the opportunities for profitable trade which the country presents. Mr. Joubert, whose services have been warmly acknowledged by the heads of various colonial Governments, has had much experience of international exhibitions in various parts of the world, and the Lieutenant-Governor has confidence in Mr. Joubert's ability to bring the undertaking in India to a successful issue. The Government of India has consented to give its support to the objects of the exhibition, and to invite the co-operation of all local Governments and Administrations in the furtherance of those objects. There is thus every probability that the collection of Indian articles will be as complete as possible, and it is hoped that exhibitors from England and the colonies, as well as from foreign countries, will come forward with large collections of the products of foreign industries, especially of the kinds which are likely to find a ready sale in this country. New branches of trade may thus be opened out, and an impetus given by force of example to manufactures suited to India.

2. The exhibition, which will be opened on the 4th of next December, will be under the patronage of his Excellency the Viceroy, and the Lieutenant-Governor has nominated a general and an exec-

utive committee for the promotion of its objects. The general committee will, the Lieutenant-Governor trusts, be composed of the chief officers of the supreme Government and of all local Governments and Administrations, the great Feudatory Chiefs and Nobles of India, and the leading officials and private individuals, both European and native, of various provinces. The duties of this committee will be for the most part honorary, but it will be in the power of its members to render great assistance by the exercise of their personal influence in promoting the interests of the undertaking.

The Lieutenant-Governor has received the assurance of the Government of India that all local Governments and Administrations will be advised to form local committees to co-operate with that in Calcutta in securing an adequate representation at the exhibition of all articles of Indian growth and manufacture.

3. It is proposed that the Exhibition should be held partly in the Indian Museum, of which a portion will be set free for the purpose, and partly in large annexes. Arrangements have been made by the Public Works Department of this Government for the immediate construction of those annexes in the space adjoining the Museum in Chowringhee which was formerly occupied by the offices of the Bengal Secretariat. (Information regarding the details of the Exhibition will be found in the prospectus published with this resolution, and any additional information which may be required can be obtained on application to the Executive Committee to the address of the Hon'ble Colonel S. T. Trevor, R.E., Bengal Secretariat, Calcutta.")

A provisional list of the names of the gentlemen appointed to the General and Executive Committees was published with this Resolution, but a revised list was subsequently issued in the supplement to the *Calcutta Gazette* of the 28th of November 1883, and is given at the beginning of this Volume.

As soon as the preliminary arrangements had been made, Mr. Joubert left India in order to canvass the Australian colonies and secure their adequate representation. He also appointed an agent in England to communicate with exhibitors at home. The Government of India at the same time addressed all local Governments and Administrations in India, as well as the great Feudatory Chiefs, asking them to co-operate in securing the success of the Indian portion of the Exhibition. A sum of Rs. 50,000 provided by the Government of Bengal was distributed among the provinces to meet expenses in getting together samples of provincial products and manufactures. To the request made to them by the Government of India, the local Governments and Administrations and several of the Feudatory Chiefs made a cordial response. Local Committees were appointed, and in some cases special officers were deputed to work with

the Executive Committee in Calcutta. Grants of money were given to supplement the funds provided by the Government of Bengal. The question of the buildings necessary for the Exhibition received the early attention of the Government. It had been Mr. Joubert's intention, when he first submitted his proposals, to ask the Government merely to grant him sufficient space free of cost on the maidan on which he could erect the necessary buildings at his own cost and by his own agency. Subsequently, however, he came to the conclusion that this would prove a more arduous undertaking than he had anticipated, and he proposed to the Government to grant him the use, if possible, of a part of the Indian Museum building to form the central feature of the Exhibition, and to permit him to erect such temporary annexes in the space surrounding it as might be necessary. This proposal was submitted for the consideration of the Trustees of the Indian Museum and agreed to. Mr. Joubert further asked the Government to allow the Public Works Department to undertake the construction of the annexes on his behalf, he undertaking to reimburse the cost on his return to Calcutta. This was also sanctioned. The buildings were accordingly commenced about the time of Mr. Joubert's departure from India, and much progress had been made with them by the time of his intended return in March. It soon became evident, from the number of applications for space, that the ground available on the premises of the Museum would be quite insufficient for the purposes of the Exhibition; but it was thought desirable to await Mr. Joubert's return before proceeding with the erection of further buildings. This was unfortunately delayed till the end of June, by which time it had become absolutely necessary to enclose a considerable space on the maidan fronting the Museum and add very largely to the accommodation to be provided. It was then resolved to erect in this enclosure a large building specially for the Indian Courts and another for machinery, and extensive open-air space was allotted to articles which were not of a nature to be injured by the weather. Subsequently several smaller buildings were erected for military exhibits, the products of Cochin China and Tonquin, &c. Ultimately the total amount of covered space occupied by the Exhibition amounted to 300,000 square feet, or nearly seven acres. This, however, was far from being sufficient for the proper display of the exhibits, which were consequently overcrowded, and in very many cases could only be seen at a disadvantage.

The character of the Exhibition, which was to a great extent a private enterprise, no doubt prevented it from securing the participation of foreign countries in the same manner as would otherwise have been the case. Foreign delegates were appointed only by the Government of Austro-Hungary, by the French colonies of Cochin China and Tonquin, and by the Dutch colony of Batavia. The following nations were represented by exhibitors, but took no official action with respect to the Exhibition :—Great Britain, France, Germany, Italy, Belgium, Turkey, Japan, and the United States of America. The active co-operation of many of the British colonies was extremely gratifying. Royal Commissions were appointed by Victoria, New South Wales, and South Australia, and representatives were sent by Tasmania, Ceylon, the Straits Settlements, Demerara, and Mauritius. Of the share actually taken in the Exhibition by each of the countries and colonies enumerated, and by the Indian provinces and independent states, it is not necessary to speak here, as a separate chapter will be devoted to each in a subsequent portion of the report.

Much difficulty was found in allotting space in many cases owing to applications, which it was difficult to refuse without causing disappointment and loss to intending exhibitors and impairing the international character of the Exhibition, being received after the date appointed by the Executive Committee. But ultimately it was found possible to complete the buildings and make all the necessary arrangements by the 4th of December, the date originally fixed for the opening ceremony. Some few Courts were not completely arranged, but there is reason to believe that the opening ceremony found the Exhibition more finished than has been the case with any great Exhibition of late years.

It was exceedingly unfortunate that a very heavy and very unusual fall of rain took place on the day fixed for the opening ; but the downpour abated to some extent in the afternoon, and the programme was followed in its entirety. Owing to illness his Honor the Lieutenant-Governor of Bengal was unfortunately not able to be present.

His Excellency the Viceroy, accompanied by their Royal Highnesses the Duke and Duchess of Connaught, her Excellency the Marchioness of Ripon, and his Excellency the Governor of Bombay, arrived at 4-30 p.m. at the main entrance to the Museum, outside which was posted a guard of honour of the Royal Warwickshire Regiment with band and colours. Their Excellencies and Royal High-

nesses were met at the gate by the Executive Committee, and a procession was then formed to the marble daïs erected at the east side of the Museum quadrangle by Mr. A. Silbiger, the representative of the city of Salzburg. As soon as the Viceregal party were seated on the daïs, the choir, consisting of ladies and gentlemen from the Italian Opera, assisted by a number of amateurs, performed the following cantata in Italian. The words of the cantata were by Signor Enrico Golisciani, and the music by Herr Mack :—

CANTATA.

Coro in gruppi—

1° Figli del Gange, di gioja un dì
Nel'orizzonte spunta forier.
2° In vincol santo gentil pensier
Tutte del mondo le genti unì
1° Figli del Gange, d'inni sien piene
Le nostre labbra, le man di fior!
2° Come sorella tra noi conviene
Ogni region che schiara l'astro d'or.

Assolo di soprano—

Le braccia v'apro, o popoli!
L'India son io—son io
Che vi saluto ai limiti
Del sacro suolo mio.
Ben giunti siate un' opera
Solenne oggi a compir
Ne le cui vaste linee
Grandeggia l'avvenir! . .
L'universal concordia,
L'universal lavoro
Di civiltà son cardini,
Di civiltà tesoro.
Unanimi prostriamoci
A questo sol novel
Che su la terra irradia
Tutto il fulgor del ciel! . . .

Coro di donne e fanciulli—

Ma ai canti mescendosi
Dei regni adunati
Il canto risuona
De l'Angla corona
Eletta da' fati
Sul Gange a vegliar—
E ratti si scuotono
I cuori a quel canto,
E grate si velano
Le ciglia di pianto,

E un grido prorompe
Che tutti trascina
D'un uomo solo al par:
"DIO SALVI LA REGINA."

Tutti—

Che tuonino i bronzi, echeggin gli squilli . .
Che fendano l'aere i cento vessilli!
Sorelle, ecco l'ora!—Si schiude la nostra
Per l'arte e l'industria magnanima giostra.

Fu sotto il possente tuo scudo, o Vittoria,
Cotanto concesso a l'Inda citta!
Per te, Regal Donna, quest'ora di gloria
Degli anni più tardi l'oblio sfiderà.

CANTATA.

(TRANSLATION.)

Sons of the Ganges! lo! a day of mirth
And happy augury
Hath dawned upon our Eastern sky,
And all the nations of the populous earth,
Knit in the sacred bands
Of peace and gentle thoughts, have joined harmonious hands.
Sons of the Ganges! raise
A joyous hymn of praise,
And let your heads with flowers, your lips with songs, be crowned;
For all the nations round,
On which doth shine day's golden star,
Have sent their tribes from far
With sister voices sweet to swell the peaceful sound.
See where India, like a bride,
Her jewelled arms doth open wide,
With heart of welcome greeting all
That come to her high festival.
Brother nations! with us meet,
Here the solemn work complete
By our joyful hands begun,
Born of what this day is done.
Before our glad prophetic eyes
What glorious years to come in long procession rise.
Hail sweet Concord, nurse of good.
Universal brotherhood!
Fount of wealth and rich increase,
And the smiling arts of Peace.
Lo from the East a light is springing
A sun of hope and promise fair,
Illuming all the earth, and flinging
A heavenly radiance thro' the air!

Echoes of the mighty sound,
Commingled nations' choral strain,
Across the mountains and the main
Shall to Britain's isle rebound,
Greeting her whom heaven hath crowned
O'er the Ganges realm to reign.
O mother! as the tuneful message flies
Our hearts are moved within us, softly rise
Unbidden tears and dim our grateful eyes.
Hark to the cry of prayer and praise
That all in chorus raise,
Prince and peasant, great and mean,
GOD SAVE OUR EMPRESS-QUEEN.
Shout! a noble work is done!
Join the thunder of the gun!
Wave a hundred banners high,
For the prosperous hour is nigh
When in peaceful rivalry
Invention, Art, and Labour meet
And for a bloodless palm compete.
Such grace, Victoria, hath thy guardian power
Given to this city of thine Indian land;
Nor shall the peaceful honours of this hour
Yield to Oblivion's touch or Time's defacing hand.

At the conclusion of the cantata the Right Reverend the Lord Bishop of Calcutta attended by his Chaplain offered the following prayer:—

O Almighty God, the Creator and Preserver of all things in heaven and earth, we the creatures of Thine hand desire to render in all humility the homage due to Thee.

Glory be to Thee in the highest, and on earth peace, good will towards men:

Glory be to Thee in Thine infinite perfections of Power, Wisdom, and Goodness:

Glory be to Thee for the revelation of these Thy perfections in all Thy gifts of nature and of grace:

Glory be to Thee for the gifts of understanding and knowledge by which Thou hast taught us to search out and apply the wondrous things of Thy Law.

Accept, we beseech Thee, this our offering of praise and thanksgiving, especially now at this time, when we are about to display the fruits of our handiwork here brought together. Subdue in us all unworthy pride and self-seeking, and teach us so to labour and use all that comes to our hand that we may ever be found working out the purposes of Thy Holy Will, to the fuller manifestation of Thy Glory and the greater happiness of mankind.

O Heavenly Father, who hast knit together all Thy creation in a wonderful order, and hast made all mankind of one blood, to dwell together in unity, replenishing the earth and subduing it, pour down

upon us of the abundance of Thy mercy such grace as may draw us to Thyself, and in Thee to each other, in the bonds of love and peace. Lighten our darkness that we and all mankind may know Thee and Thy Will concerning us: kindle our affection, that loving Thee we may love the thing which Thou commandest, and worthily fulfil the duties of our respective callings.

Bless, we pray Thee, Thy servant Victoria, our most gracious Empress, and all the Imperial family; and especially at this time bless and protect thy servant Arthur Duke of Connaught, now called to serve Thee in this land, together with her whom Thou hast given to be the sharer in his life.

Give wisdom, faithfulness, and patience to all who in authority and in their several stations are endeavouring to promote the welfare of this land: and so overrule and order all things for good that peace and happiness, truth and justice, religion and piety, may be established here and in the utmost parts of the earth.

Finally, with these our praises and prayers, we offer and present unto Thee these the fruits of our labours; beseeching Thee to accept them and bless them to our use, through Jesus Christ our Lord, who with Thee and the Holy Spirit liveth and reigneth, ever one God, world without end, Amen.

Colonel S. T. Trevor, R.E., the Vice-President of the Executive Committee, then read the following report of the proceedings of the Committee:—

May it please your Excellency,—We, the members of the Executive Committee appointed by his Honor the Lieutenant-Governor of Bengal to superintend and control the affairs of the Calcutta International Exhibition, have the honour to approach your Excellency with this our report. We desire in presenting it to assure your Excellency of our heartfelt loyalty and devotion to the crown and person of her Most Gracious Majesty the Queen-Empress. We deem ourselves especially fortunate in being able to express this assurance in the hearing of their Royal Highnesses the Duke and Duchess of Connaught, inasmuch as their Royal Highnesses' presence in India and their participation in this ceremonial afford evidence, if any were needed, of the strong and affectionate interest felt by her Majesty and the Royal Family in the welfare and prosperity of her Indian people. To your Excellency we wish to offer our respectful thanks for the interest displayed by your Excellency in the advancement of this Exhibition from the time when it first received the sanction of the Government of India to its completion this day.

The credit of originating the proposal to hold an international exhibition in Calcutta belongs to M. Jules Joubert, to whose successful management of similar exhibitions testimony has been borne by the Governors of some of the colonies. M. Joubert first laid his scheme before the Lieutenant-Governor in October 1882. At that time he asked only the patronage and support of the Government and the free grant of sufficient space on the maidan for the erection of the necessary buildings, and was willing to bear the whole responsibility of the

Exhibition. A further insight, however, into the difficulties attending the execution on a large scale of novel undertakings in this country made M. Joubert less sanguine of success than he had been at first, and more disposed to lean upon the Government for support and assistance. At the same time a belief was forming in the Lieutenant-Governor's mind that an international exhibition, guaranteed by the Government, at least as far as the Indian portion was concerned, could not fail to be of lasting benefit to the empire. In the Lieutenant-Governor's opinion the time was ripe for such friendly rivalry as would bring home to foreign nations a better knowledge of the resources of India, and to India a truer notion of the benefits to be gained from more extended intercourse and developed trade with other countries. Thus the Lieutenant-Governor, subject to the approval of your Excellency, readily assented to M. Joubert's proposals for official aid. That aid took the twofold form of assistance in constructing the Exhibition buildings at M. Joubert's expense and of collecting exhibits illustrative of the arts and industries of India. The collection of Indian exhibits we confidently submit to criticism, while, if the buildings do not in all respects compare favourably with those of European exhibitions, we would beg your Excellency to remember that they have been built within the space of a few months, and under the adverse circumstances of Indian monsoon weather. The Executive Committee trust that, allowances being made for these circumstances, your Excellency may be of opinion that the most has been made of the time, and that praise is due to the officers, subordinates, and contractors of the Public Works Department to whom was entrusted the duty of erecting the buildings.

The approval of your Excellency in Council to the proposal to hold this Exhibition was accorded in the month of December last. The necessary steps were then at once taken to commence proceedings by the appointment of a General and an Executive Committee. The General Committee, to which additions have from time to time been made, comprises the chief officers of state in India, Feudatory Chiefs and Nobles, and the leading officials and private individuals, both European and native, of the various provinces. The duties of this Committee have been for the most part honorary, but, as was anticipated by the Lieutenant-Governor at the time of their appointment, the good-will and personal influence of its members have been of material assistance in promoting the objects of the undertaking. The actual control of all matters connected with the Exhibition has rested with the Executive Committee. The Government of India warmly espoused the cause of the Exhibition, and invited the co-operation and assistance of all local Governments and Administrations. Similar invitations were issued from the Foreign Department to the Feudatory Princes and Chiefs of India. These invitations, as well as others addressed by the Executive Committee to all foreign Consuls in Calcutta, have, it is gratifying to report, met with a general and hearty response.

While we thus most willingly acknowledge the obligations under which the Government of India has placed the Executive Committee in the Matter of the Indian portion of the Exhibition, we also beg your Excellency's permission to notice the sustained and successful effort

made by M. Joubert in canvassing the Australian colonies, the United Kingdom, and foreign countries in favour of the Exhibition. For this purpose M. Joubert visited Australia, and at the same time established an agency in London by which the objects and scope of the Exhibition were made known throughout the United Kingdom. That the time chosen for the Exhibition was opportune was soon abundantly clear from the manner in which the scheme attracted the attention of manufacturers and others in England and the colonies; and an additional impetus was given to the undertaking when the connection with it of the Bengal Government became more generally understood.

The Exhibition has continued to grow apace, and numerous large additions to the buildings have become imperative. These buildings now comprise a portion of the Indian Museum, a new permanent building specially erected to form a portion of the future home of the Bengal art collection, six annexes contiguous to the Museum, a large Indian Court, and a still larger Machinery Court on the maidan, besides several minor buildings, the aggregate area of the whole being upwards of 300,000 square feet. Much space, moreover, in the grounds is allotted to articles suitable for outdoor display. There are upward of 2,500 exhibitors, and the number of articles exhibited is not less than 100,000. The Executive Committee regret much that it has been necessary to refuse numerous applications for space which have arrived since the last date fixed for their reception. The number of these applications renders it absolutely certain that, had it been possible to devote two years instead of one to the preparations for the Exhibition, the number of articles exhibited would easily have filled more than double the space which is now available.

The Executive Committee have already referred to the zeal with which M. Joubert has discharged his functions in connection with the Exhibition. They desire also to record their strong sense of the courtesy and good feeling with which he has carried out their wishes. Their thanks are due, moreover, to the representatives of the various foreign and colonial Governments, whose relations with them have always been of the most cordial and pleasant description. It is to the exertions of the several provincial Governments and tributary states of India, of the local and branch committees organised by them, and of the officers working under their control, that the very marked success of the Indian portion of the Exhibition is due. All provinces of India, and most of the larger feudatory states, are well represented in the Exhibition, and the collection of artware, jewelry, and manufactures from the various parts of India has probably never been equalled.

In conclusion, the Executive Committee venture to hope that the example set by the Calcutta International Exhibition of 1883 may be followed in other provinces of the empire, and that the seed now sown may fructify until this great empire shall, in the friendly rivalries of peace, reach that prominent position among the nations of the earth to which her past history and traditions, her great natural resources, and the persevering industry of her teeming population, so justly entitle her.

Your Excellency,—The Executive Committee had until this morning indulged in the hope that his Honor the Lieutenant-Governor

would have been present in person, and would have addressed your Excellency with regard to some of the larger issues connected with the Exhibition, with which it did not fall within their province to deal.

Your Lordship is aware of the reason for Mr. Rivers Thompson's unavoidable absence. Speaking for the Executive Committee, I would say that our President's absence on this occasion is a source of the profoundest regret to all of us, and that we earnestly hope that but a few days will suffice to restore him to health. Meanwhile in his Honor's absence I am deputed to thank your Excellency for your presence at this ceremony, and for the interest your Excellency has manifested in the work which we are now inaugurating. I am further commissioned to express in his Honor's name, in the name of the Executive Committee, and, indeed, in the name of all the people of this great province of Bengal, their sense of loyal gratification at the auspicious presence of their Royal Highnesses the Duke and Duchess of Connaught; and our feelings in this respect have been evoked as well by their Royal Highnesses' own personal claims to our respectful regard, as by their connection with the illustrious Lady whose sway as Queen-Empress of India we all, European and native alike, most lovingly and reverently acknowledge.

May I now ask your Excellency to be pleased to declare this Exhibition open?

His Excellency the Viceroy, in response to this invitation, rose and said:—

May it please your Royal Highnesses, Colonel Trevor, ladies and gentlemen,—Before I proceed to discharge the duty which Colonel Trevor has just asked me to undertake, and to declare this Exhibition open, in accordance with the usual custom upon such occasions, and with the provisions contained in the programme of to-day's proceedings, I desire to make a few observations in connection with the present Exhibition.

You might naturally have expected that I should have commenced those observations by congratulations, but the closing remarks which have fallen from Colonel Trevor fill my mind with a subject not of congratulation, but of deep regret, and I cannot pass away to other and more pleasing topics without, in the first instance, expressing that which I am confident will be the unanimous feeling of every one here assembled,—the heartfelt regret which, one and all, we entertain for the enforced absence of the Lieutenant-Governor. You, who know Mr. Rivers Thompson's devotion to his public duties, need no assurance from me that it is nothing but the imperative order of his medical adviser which has induced him to abstain from being here to-day; and I am sure that, like myself, you would have deeply regretted if he had come here at any risk to his valuable health in order to be with us.

Ladies and gentlemen, I will now offer you my congratulations upon the completion of the undertaking of this Exhibition, which was commenced less than twelve months ago. It is not yet quite a year

since the Lieutenant-Governor first sought the sanction of the Government of India to the establishment of an international exhibition in this city.

That sanction was readily granted, and when we consider the magnitude and the many difficulties of the work, we may congratulate ourselves and thank those who have been actively engaged in carrying that work out, that they have been able to bring it, if not to absolute completion, yet to such a state of completeness as has enabled it to be opened upon the very day which was fixed last December. When, twelve months ago, I was invited by the Lieutenant-Governor to perform the opening ceremony to day, I had no hesitation in at once accepting the invitation, because I felt that few duties could be more appropriately allotted to one who has the honour to fill the position of her Majesty's representative in this country than that of opening an international exhibition ; for I need not remind you of the deep interest which her Majesty has always felt in undertakings of this kind in any part of the world.

The first conception of these exhibitions—a wise and fruitful conception—emanated from the sagacious mind of the late Prince Consort, and therefore you can all easily understand with what interest her Majesty has followed the history of every successive exhibition which has grown out of that famous triumph which his Royal Highness accomplished in 1851.

Ladies and gentlemen, it appears that I judged rightly in thus interpreting her Majesty's sentiments, for since I came into this hall, with that special fitness and opportuneness which marks every act of the Queen-Empress, there has been put into my hand, while Colonel Trevor was reading his report, the following telegram from her Majesty:—"My best wishes for the success of the Calcutta Exhibition."

Again, ladies and gentlemen, I must congratulate you heartily upon the presence on this occasion of their Royal Highnesses the Duke and Duchess of Connaught. When I ventured to send an invitation to his Royal Highness, asking that he and his illustrious Consort would be present here to-day, I had no doubt of the reception which that invitation would meet. Their Royal Highnesses were graciously pleased to accept it at once, and thus to mark their deep interest in the undertaking in which you are engaged,—an interest, sir, which in the case of your Royal Highness may be justly called an hereditary interest.

And now, ladies and gentlemen, it would be most ungrateful, in the discharge of the duty in which I am engaged on this occasion, if I were not to say some words of earnest thanks to those who have laboured to accomplish the results which we are assembled here to witness. First and foremost among them your thanks, as you well know, are due to your Lieutenant-Governor, my friend Mr. Rivers Thompson. I should be the last person to wish to depreciate the labours of others who have worked for this important end, but I know well the deep interest which Mr. Thompson has felt in this matter from the very commencement,—the energy with which he has devoted himself to accomplish the undertaking; and I venture to say

that if it had not been for his hearty support and untiring energy, you would not have had an international exhibition in Calcutta in 1883.

There is another gentleman to whom our thanks are also due, who occupies in respect to this Exhibition a somewhat peculiar position.—I mean M. Jules Joubert. M. Joubert will excuse me, I am confident, if I frankly tell him that when first I heard that it was proposed that a private gentleman on his own responsibility should undertake the main burden and charge of getting up an international exhibition in Calcutta, I was filled with considerable surprise. The idea was to me a novel one. I was not then aware of what had been done in the same way by M. Joubert in other quarters of her Majesty's dominions, and my first feeling was one, as I have said, of surprise. But Mr. Rivers Thompson assured me that he had looked carefully into the matter, and that he believed that M. Joubert was both willing and able to carry out the work he desired to do. Satisfied by these assurances, and by the evidence of previous, though not altogether unvaried, successes which had attended his efforts, my doubts were removed, and the sanction of the Government of India was given to the undertaking. Well, ladies and gentlemen, you see how that undertaking has been accomplished. You see what M. Joubert has done, and I think you will agree with me that our thanks are due to him for the zeal and energy with which he has laboured for this end. But while we thank M. Joubert, we must recollect that he could not have accomplished that which he has done unless he had had the untiring assistance and the zealous aid of the Executive Committee who have been conducting these operations. M. Joubert agrees with me, I see, in that estimate of their services. The members of that Committee, official and non-official, have worked hard and done their duty well; but none of them, I think, will question the statement that I make when I say that foremost among them all your thanks are due to Colonel Trevor—for the tact, the zeal, and the patience with which he has guided their operations. I understand from the Lieutenant-Governor that he has had to contend with great difficulties and not a few temporary disappointments; and here, in what has been accomplished, we see the result of the spirit in which he has laboured.

Ladies and gentlemen, I will not detain you much longer, for when I come to speak of the character of this Exhibition I feel a certain difficulty in expressing an opinion about it, because up to the present time I have not seen it. I should have liked very much to have had a private view of the Exhibition before to-day, so that I might have been able to give an opinion from the personal knowledge of its contents; but I have abstained from asking for such a private view because I found how much remained to be done within the last few days, and I was most anxious not to interrupt in any way the unceasing labours which have been necessary to accomplish that which has been actually effected. I can, therefore, only speak from hearsay and from the opinion of others; but I believe that I am right in saying that the Indian portion of this Exhibition is of a very satisfactory and interesting character, and that it will afford to your Royal Highnesses and to other visitors from Europe, from the Australian colonies,

from America and other parts of the world, a very fair sample of the arts, manufactures, and products of this great portion of her Majesty's dominions: and I am quite sure that it will be a great advantage, both to India and to other countries, that her resources and her means should be more widely and better known than at present is often the case.

I understand also, and I rejoice very much at it, that the Australian portion of this Exhibition is extensive and full of interest.

I also understand that we have present amongst us in this city a considerable number of gentlemen from the Australian colonies, and that more are expected to follow in their wake; and I am sure that one and all here present will join with me in offering to them a hearty welcome. It has been said in the report that the Lieutenant-Governor feels very strongly the possibility and the great importance of developing the trade between this country and Australia. In that opinion I heartily concur. I believe that there is a great future before the trade of India and Australia, and I have no doubt that if this Exhibition furthers the development of that trade, that result alone will be amply sufficient to justify and reward the labours of those who have carried out this undertaking. Speaking a short time ago in England, his Royal Highness the Prince of Wales stated that he intended to establish in 1886 a British Colonial Exhibition, and that he hoped that India would be well represented there. I hope so too. I trust that India will be represented there even better than she is represented here, so that all her Majesty's colonies may see what are her resources, and may know what is the nature of the trade which we carry on with other countries.

There is one other remark which I desire to make before coming to a conclusion. I know that it was the intention of Mr. Rivers Thompson to express a hope, which he very strongly entertained, that this Exhibition might not be altogether of a temporary character, but that from it might spring up a more permanent memorial; and he has told me that he thought that memorial might most fittingly take the shape of a National Gallery and a School of Art. I will not enter upon that subject now, except to say that I earnestly hope that the wishes of the Lieutenant Governor in this respect may be accomplished.

Ladies and gentlemen, I need not detain you by any arguments to show the value of exhibitions of this kind. When the great exhibition of 1851 was proposed by the Prince Consort, the idea was first met with much opposition and with many prophecies of evil; and when it had become an accomplished fact and a complete and triumphant success, there were not a few who indulged in exaggerated dreams of the results of exhibitions of this kind. But that illustrious Prince, with the calm wisdom and deliberate judgment which characterised him, while he never doubted of the success of the undertaking, was never led into an over-enthusiastic estimate of its effects; and I cannot better conclude what I have to say to-night than by repeating with your Royal Highness' permission to those who are assembled here, if the fading light will allow me to do so, the well-chosen words addressed by the Prince Consort to a great meeting in the Mansion House of London in connection with the exhibition of 1851—words which embodied his hopes and his expectations, and

which described what was in his idea the aim and object of an international exhibition.

His Royal Highness said:—"I confidently hope that the first impression which the view of this vast collection will produce upon the spectator will be that of deep thankfulness to the Almighty for the blessings which he has bestowed upon us already here below, and the second the conviction that they can only be realised *in proportion to* the help which we are prepared to render each other; therefore, only by peace, love, and assistance, not only between individuals, but between the nations of the earth."

I can add nothing to these words, and with them I declare the Exhibition to be open.

The buildings were then simultaneously lighted up with electric light, a fanfare of trumpets was given, and a salute of 31 guns was fired from the ramparts of Fort William. The procession was re-formed, and conducted their Excellencies and Royal Highnesses into the British and colonial portions of the Exhibition, where the colonial and foreign representatives were presented to his Excellency the Viceroy and his Royal Highness the Duke of Connaught, and from thence to the Indian section, where the Indian provincial representatives were similarly presented. After viewing some of the principal exhibits, their Excellencies and Royal Highnesses left the building by the west gate. The day's proceedings were concluded by a banquet at Government House to the principal officials of the Government of India, to the accredited foreign and colonial and provincial representatives, and to the officials connected with the Exhibition.

Within a few days of the opening, those portions of the Exhibition which were not ready at the opening ceremony were completed. The heavy rain at the commencement prevented the attendance of as many visitors as had been expected during the first few days, but before long large crowds came daily. With a view to attract as large numbers as possible, and to place the Exhibition within the reach of the masses, the price of admission was fixed at 4 annas daily, with the exception of Wednesdays, which were reserved for visitors wishing to see the Exhibition with more comfort, and on which an admission fee of one rupee was charged. For a time the experiment of opening the buildings in the evenings for 8 annas was tried, but it was found that the numbers visiting it were insufficient to pay for the cost of lighting, and after the first month the Exhibition was open from 10 a.m. to 6 p.m. only.

The total number of persons paying for admission at the turnstiles was 817,153, to which must be added about 200,000 for season ticket-holders and exhibitors, attendants and others, who were admitted free. The total number admitted, therefore, during the currency of the Exhibition amounted to over a million. At first the admissions were not very closely checked, and it is impossible therefore to say exactly the number of admissions daily in the month of December; but from the 3rd of January to the closing of the Exhibition the numbers paying daily for admission will be found in the table given as an appendix to this report. It will be seen that, excluding holidays, the numbers showed a tendency to increase in the latter part of March; and this tendency is, the Executive Committee believe, to be attributed principally to the fact that news of the Exhibition only began to spread among the masses outside Calcutta after it had been open for some time. Previously to the opening everything that was possible had been done by means of advertisements and hand-bills distributed through the villages to make the existence of the Exhibition known.* But news permeates the Indian village communities very slowly, and there is much reason to believe that very many persons never even heard of the existence of the Exhibition. It is therefore a matter for regret that it was found necessary to adhere to the original programme of closing the Exhibition early in March; for had this not been the case, there can be little doubt that large numbers of natives would have continued to throng the buildings for many months. Unfortunately, however, the early closing was unavoidable. The exhibitors had come prepared to stay for three months only, and were naturally unwilling to endure the intense heat of an Indian summer when the season during which business was likely to be done was over. The buildings, moreover, were for the most part of a temporary nature, and were not intended for the hot weather. The heat in them towards the end of March became very oppressive, and would later on have been hardly bearable; while a cyclone or other severe storm might have caused very serious injury to the buildings themselves and to the very valuable articles exposed in them. On all these grounds, therefore, the closing at the beginning of March was necessary. But it is very gratifying to know that so large a number of people profited by the opportunity given to them

* For a detailed account of these see Appendix.

of seeing all that is best of Indian and foreign produce. Visitors from England and the colonies were less numerous than had been anticipated—a fact probably to be attributed for the most part to the heavy expense of a journey to India, and to the frequent exhibitions which have in recent years been held in every quarter of the globe. People were naturally disinclined to travel long distances at a very heavy cost in order to see what they had already to a great extent seen at home; and their disinclination to do this was probably increased by the rumours which were early afloat, though they proved to be to some extent baseless, of the greatly enhanced cost of living in Calcutta and the difficulty of obtaining accommodation. To meet the latter difficulty the Government erected a large temporary hotel, which was, however, but little used, as the existing accommodation for Europeans was found sufficient to supply all demands. The existence, however, of the hotel was not without a salutary influence in keeping prices down nearly to their normal level. One of the most gratifying features of the attendance was the large number of Indian women who visited the Exhibition; and on this point the Committee cannot do better than quote an extract from the speech delivered at the opening of Convocation by the Hon'ble H. J. Reynolds, Vice-Chancellor of the Calcutta University :—

"I speak of the Exhibition to-day," Mr. Reynolds said, "as an educational agency; and as such it cannot but have made an impression even on the most simple rustic, who regarded it with a kind of stolid wonder,—as a mere *jádughur*, a mere palace of magic. The Exhibition is a school which has brought something even to such unpromising pupils as these, and still more it has aroused the interest and quickened the intelligence of the Indian craftsman and citizen. Next, it has been a mighty power in breaking down those traditional habits which in this country seclude the female sex from association with men. No one can have visited the Exhibition without being struck with the number of native ladies who were to be met with in its courts and galleries. Arrangements were made for setting aside certain days and hours for their visits, but this scheme was only partially successful. They found that they could enter among the general throng of visitors without being in any way molested or annoyed, and they availed themselves freely of this newly-discovered liberty. I saw it stated not long ago in the papers that nearly 50,000 native ladies had thus visited the Exhibition; and if this statement is correct, the fact is one of which it would be difficult to exaggerate the importance."

The closing ceremony took place on Monday, the 10th of March, when, notwithstanding the heat, large numbers both of Europeans and natives of India were present. Her Ladyship

the Marchioness of Ripon was unavoidably prevented from being present. His Excellency the Viceroy accompanied by his Private and Military Secretaries and Aides-de-Camp arrived at the entrance to the buildings at 4-60 p.m., and was received by his Honor the Lieutenant-Governor of Bengal and staff and the members of the Executive Committee of the Exhibition. A guard of honour of European infantry with band and colours presented arms on his Excellency's arrival, and a procession was formed to the dais, the band of the 17th Native Infantry (the Loyal Purbeah Regiment) playing the National Anthem. As soon as his Excellency the Viceroy had taken his seat on the dais, the Vice-President of the Executive Committee read the following report of the awards made by the juries :—

May it please your Excellency,—We, the members of the Executive Committee of the Calcutta International Exhibition, in presenting this our report of the awards of the juries, desire to thank your Excellency for consenting to preside at this ceremony. Your Excellency's presence to-day affords a further instance of the interest taken by your Excellency in the undertaking; which we can now say with confidence has this day terminated a successful career. It is due to the Government of India that under your Lordship's auspices the several local Governments were invited to take part in this Exhibition, and the beautiful collections of all our Indian Courts, which form a prominent feature in this great undertaking, mark the energy and intelligence with which the Exhibition has been promoted by every local Administration in India.

We desire at this time also to express the great satisfaction which we feel at the presence of his Honor the Lieutenant-Governor of Bengal. The absence from the closing ceremony of one who had guided the progress of this enterprise from its inception to this day with an earnest and helpful interest would have been a source of sincere regret to your Excellency and ourselves.

It will be within the recollection of your Excellency that in the report which we had the honour to present at the opening of this Exhibition the number of exhibitors was stated to exceed 2,500, while the articles exhibited were estimated at over 100,000. The mere statement of these figures suffices to show how great was the task that devolved upon the jurors. For the purpose of judging, the articles exhibited were divided into 149 classes, and a separate jury was appointed for each class. The rules provided that each jury should consist of an uneven number of persons, of whom one-third should be selected by the Indian exhibitors, one-third by the foreign exhibitors, and the remainder by the Executive Committee. Owing, no doubt, to the difficulty of making a selection—a difficulty much enhanced by the fact that most of the exhibitors were strangers to this city—comparatively few of the exhibitors availed themselves of the privilege of selecting jurors, and the duty of nomination thus fell in all but a few cases upon the Executive Committee. The appointment of juries

was the more difficult, in that the number of experts in Calcutta is limited, and of these many were precluded from acting on juries as being interested in the results of the judging either as exhibitors or agents. Ultimately, however, it was found possible to appoint juries in all classes, and the Executive Committee would wish to convey their thanks to the gentlemen who at a large sacrifice of time and labour have so kindly assisted them with their gratuitous services. The fact that not less than three jurors were appointed in each of the hundred and forty-nine classes, and that the total number of jurors who served was only 176, suffices of itself to show how great was the task which some among these gentlemen so kindly undertook. To facilitate the work of the juries, and to secure uniformity of procedure, a member of the Executive Committee was appointed Superintendent of Juries; and the Executive Committee desire to record their sense of the valuable services rendered by Lieutenant-Colonel J. F. Fitzgerald Cologan in this behalf. Some time necessarily elapsed before the juries could begin work. The first jury met on the 19th January 1884, and the last award was declared only this morning. The total number of awards given has amounted to 3,142. The difficulty of obtaining jurors of first instance led the Executive Committee with some regret to decide that no appeals should be allowed except in cases in which an exhibit had been overlooked without any fault on the part of the exhibitor; and in order to obviate the filing of appeals on other than substantial grounds, the deposit of a fee of Rs. 30 was required with each objection. On the whole the number of appeals made on admissible grounds was very small, being under 2 per cent. of the awards, and testifies to the zeal and fairness with which the jurors executed their duties.

The total number of awards given was distributed as follows:—

Certificates of merit of the first class	1,898
Certificates of merit of the second class	1,031
Certificates of merit of the third and lower classes ...	661

In 723 cases the certificate of merit of the first class was accompanied by a recommendation from the jury for the special distinction of a gold medal. All other certificates of the first class carry the silver medal with them, and those of the second class the bronze medal. We beg to present to your Excellency a list of the awards as complete as it has been possible to make it in the short time that has elapsed since the last report was received. As your Excellency will observe, the list is too long to read on the present occasion.

His Honor the Lieutenant-Governor, in asking the Viceroy to declare the Exhibition closed, said:—

My Lord,—It now devolves upon me as President of the Executive Committee to ask your Excellency to declare officially the closing of the Calcutta International Exhibition. In asking your Lordship to do this, we follow only in this matter the usual precedent of similar exhibitions in Europe, America, and Australia; and indeed there seems to me to be a special need in India for some formal ceremony of this kind, in the fact that the numbers who have been pouring

in from all parts of the country to visit the Exhibition have been so great during the last few days that it would seem to imply not so much the knowledge of the existence of the Exhibition, having now reached the people,—for that we may suppose had prevailed,—but the knowledge of the fact that the Exhibition contained very wonderful things, and that it was well worth a visit. News of this kind travels very slowly in a country like India, and we may suppose rather that in remote villages and places the accounts given by returning visitors of the marvels of a new wonderland have dispelled the apathy and excited the curiosity and interest of the thousands who have thronged into the gates during the last few weeks. It would need thus the authority of a public declaration of one in your Excellency's exalted position to stay the inpouring of continued visitors. In the state of things to which I have thus generally referred, it is not without its regret that the day for the termination of the Exhibition has arrived. I believe I am correct in saying that in other countries exhibition seasons have extended over a period of at least six months; and there can be little doubt in my mind that if we could have followed this course on the present occasion, the success of the enterprise would have been more widely acknowledged, and its benefits proportionately increased. Considerations, however, of climate and season must prevail; and for this reason, if for none others, I am afraid the time has come when the curtain must fall and the lights be put out. I should here mention, my Lord, that it is the intention of the Bengal Government to publish a full report of the operations of the Committee from the inception of this undertaking; reviewing carefully its projects, the plans adopted for its being carried out up to its consummation to-day. Advantage would be taken in this review to give some description of the exhibits from each country in all their interesting variety, and the results which we may fairly anticipate from the Exhibition in their many commercial and social aspects. A full representation of the Exhibition and its results will thus be placed before the public. I would take, however, this opportunity of briefly recounting some of its prominent features. And first as regards the number of our visitors. I find from the paper which I hold in my hand that the total number of admissions dating from the 5th December to the 4th of this month comes to 817,153 persons. This excludes some 8,000 persons estimated to have been present on the opening day; it excludes also some 3 or 4,000 free admissions, which Mr. Joubert very kindly and liberally extended to the schools and charitable institutions of the town; and it excludes also the large multitudes who have crowded the Courts during the last week. We shall not, I take it, be very far wrong if, putting all together, we estimate the total returns up to this evening at a million of persons. Of course it may be thought that the result might have been better, and that out of a population in this country of 250 millions one million makes an inconsiderable show. But it must be remembered, my Lord, that India is rather a large place; that the distances to be travelled are very great; that expenses of travelling are very heavy; and, specially, that the mass of the 250 millions are very poor people, whose presence under any circumstances was out of the question. Again, I would

note that very great increase to the daily average of sight-seers would have been a serious inconvenience, except, perhaps, to M. Joubert. The space for the Exhibition, though probably it has grown to three times the size which was originally contemplated, would not have sufficed for larger numbers. It is interesting to find that the daily average up to a week ago of paid admissions is a higher average than that obtained at either of the Exhibitions of Melbourne or Sydney. For Calcutta the daily average on the 96 days comes to 6,277 persons, against 5,214 at Melbourne and 4,184 at Sydney. Perhaps 6,000 persons a day represent a number which the Court and grounds here would conveniently accommodate; but we find that on special occasions and on particular holidays the number of daily visitors have grown to about 14,500 during the Christmas week, and to as many as 16,183 on the 10th December. As a spectacle, then, I think we may fairly congratulate ourselves on the keen interest which this Exhibition has excited in the native mind; and as an Exhibition for India, the primary aim of our efforts has been secured. To Europeans, exhibitions of the kind are familiar enough. To Indians it was in every sense a novelty, in the magnitude of the enterprise, the variety of the display, and the splendour and value of the collections; and the gratification in the spectacle will have been all the greater in the discovery that honour and distinction were especially reflected upon the beautiful illustrations of native art and native industry. Who that has seen the beautful carpets and shawls from Kashmir and Agra, the silken and muslin fabrics of native manufacture, the silver-work of Cuttack, the ivory-work from Murshidabad, the wood-carving from Burma, and the brassware from Benares, Jaipur, and many other cities, but must realise the great resources of native technical talent in those directions in which delicacy of touch and colouring are especially called into use. And if a native artisan or mechanic has stood aghast at the marvels wrought by the mechanical appliances of Europe constructed for the relief and diminution of manual labour, or gazed in astonishment upon the stupendous powers which steam and electricity have been brought to exercise even in the commoner uses of human needs and requirements, and if these sights now only excite wonderment when contrasted with the simpler but often ingenious contrivances of his own handicraft, we can trust to the growing forces of the wider education in all its branches which your Lordship's administration will have promoted for the diffusion of that special knowledge which shall appropriate the lessons which the Exhibition has taught for the benefit and advancement of India. Then I would say a word, my Lord, upon the financial position, regarding which there seems to have been some anxiety. The total cost of the building for the Exhibition comes to an outlay of Rs. 3,20,000, of which, under our arrangement with M. Joubert, Rs. 2,20,000 have been paid in cash, leaving a balance of one lakh to be adjusted by the value of buildings or material which the Bengal Government proposes to take over. So that as regards the expenditure upon the structure, the Exhibition will not have cost the Government a rupee. Besides this, however, we have had the honour of placing at the disposal of the Government of India in the Revenue Department a sum of Rs. 50,000, which, I understand, has

been distributed among other local Governments and Administrations for their collections, and these collections by arrangement we retain in return for our money. We have also had to spend the same amount —half a lakh of rupees—for our own collections in the Lower Provinces, because the peculiarity of the native mind is this, that, unlike his English confrère, the native workman does not see the advantage of paying for space and bringing down his exhibits for nothing if some one else will do this for him; and so in our dealings with them we have to purchase their articles outright, and have to put them up at our own charges. I trust, however, that this actual uncovered expenditure of Rs. 50,000 by the Bengal Government will not affect any but the hypercritical and the over-cautious.

His Honor then, in a few words, made special allusion to the share borne by M. Joubert in furthering the success of the Exhibition. He referred to the important question of a trade connection between Australian colonies and India, and expressed a hope that one of the results of the Exhibition would be the establishment of a direct trade between the colonies and India. He mentioned in this connection the recent despatch of a steamer which had been lately built for that trade, and which was expected in Calcutta in a few days, and hoped that this would be but the pioneer of a long series of commercial steamers in that service. He concluded by suggesting the establishment of a permanent fine arts gallery on the site of the present structures attached to the Museum buildings, and said that definite proposals had been submitted to the Government of India with regard to this project, with which he hoped would also be associated a fine arts school. His Honor then asked His Excellency the Viceroy to declare the Exhibition closed.

His Excellency the Viceroy said:—

Mr. Rivers Thompson, ladies and gentlemen,—I have much pleasure in complying with the request which has been made to me to take part in the proceedings of to-day. When you, Mr. Rivers Thompson, asked me a few days ago whether I would undertake to perform this closing ceremony, I felt that I was bound to listen to your call and comply with the request which you made to me in respect of this matter. It is evident from the statements which you have just made that upon some grounds we might all of us have rejoiced if this Exhibition could have been kept open for a longer time, for it seems that it is only recently that its full value has become thoroughly appreciated by the people of this city and neighbourhood, and that therefore that it has been able to do that educational work amongst them which was one of its primary objects. But the facts which have been mentioned to me show that the Executive Committee have exercised a necessary discretion on account of climatic and other

considerations in coming to the conclusion that the time has arrived when this Exhibition ought to be closed; and under these circumstances I have no hesitation in undertaking the duty of declaring that it will be closed this day. Gentlemen of the Executive Committee, I heartily thank you for the address which you have presented to me upon this occasion, and I rejoice indeed to find that you were able to state in that address that the career of this Exhibition has been a successful one, and that statement was fully endorsed by the Lieutenant-Governor here, and also to learn from the information which has been afforded to me that in spite of all difficulties—and they have been many and considerable—which have beset this undertaking, it has to a very large extent fulfilled the expectations which were entertained when it was first commenced. Ladies and gentlemen, I need scarcely tell you that I share to the utmost the gratification which was expressed by the Executive Committee in seeing Mr. Rivers Thompson amongst us to-day. His absence cast a gloom over the opening ceremony, and his presence here in restored health will add not a little to the gratification which all those feel who take part in the closing ceremony to-day. I think, all circumstances considered, that we may be well satisfied at the attendance of visitors at this Exhibition. As you have told us, Mr. Rivers Thompson, if we compare the millions of persons who have visited the Exhibition since its opening with the vast population of the whole of India, the number may seem insignificant; but then we must recollect what India is, and we must remember that if any one expected that such a proportion of that population would have attended this Exhibition as has been found to have been the case in regard to the population of England, and English exhibitions, they must have forgotten the geographical conditions and the extent of India. You have spoken, sir, in eloquent language of the beauty of the Indian Courts of this Exhibition. I can add nothing to what you have said upon that subject, except to say to you how cordially I concur in the judgment which you have thrown out. I dare say that many visitors from Europe and America and from Australia have been surprised to have seen the beauty and the variety of the products of this country, and the many proofs of the artistic skill of the inhabitants of India which those Courts afford. And yet beautiful as that part of the Exhibition is, and successful as it has been to a great extent, I would venture to express the hope that upon some future occasion we may be able to show yet more completely and beautifully all the productions of this great land. Our thanks are due to those distinguished Native Princes and gentlemen who have sent exhibits to these Courts, and they are due no less to those local officers in every part of the country who have zealously laboured to collect the products of their respective districts, and to forward them to the Exhibition. Indeed, if I were to make any criticisms upon the Indian Courts, it would be this, that their space was too limited for the beautiful works which were there exhibited; that those objects were so crowded together in many cases that they could not be adequately seen. There is another eastern country which has contributed largely upon this occasion to our interest and our pleasure, and I think all who have visited the Exhibition will agree that one of the most beautiful and interesting Courts in it

has been the Japanese Court. We have seen there ample and striking proofs of the artistic skill and graphic power of that remarkable people. For my part—and I dare say many others will agree with me—I have also felt a very deep interest in the Australian portion of the Exhibition. We have seen there marked traces of the progress of the youthful countries—of their varied resources, and of the energy of their people. Our thanks are due to the Governments of those colonies and to the public in Australia for the aid which they have given to make these Courts a success. And our thanks are no less due to those distinguished gentlemen who have come over from the Australian colonies for what they have done to make these Courts attractive and interesting to those who have visited them. Like you, Mr. Rivers Thompson, I earnestly hope that the exhibition of Australian products, and the friendly intercourse which has gone on with the Australian gentlemen upon this occasion, will not be the only, nor the most important, result of the Australian portion of the Exhibition; and I think we may all rejoice to hear from you that there is every reason to believe that the hopes which were expressed when the Exhibition was opened, that it would lead to an extended and more direct trade between Australia and India, are likely to be realised. I venture to say that if it had obtained no other result, it would have been amply worthwhile to have held this Exhibition. On the opening day it was my pleasing duty to express thanks, on behalf of the public, to the Executive Committee of this Exhibition under the presidency of Colonel Trevor. Those thanks are still more due now for the labours of those gentlemen, which during the time when the Exhibition has been open have been unremitting, and it is to their labours that its success may be attributed. M. Joubert also has continued to render his services to the last, and to him our cordial acknowledgments are due. But to-day, as the address of the Executive Committee has reminded us, our thanks are specially to be accorded to another body of gentlemen. I mean the gentlemen who have acted as jurors upon this occasion. Anybody who knows anything about exhibitions of this kind knows very well that the functions of a juror are by no means a sinecure, and that they are attended occasionally with circumstances which are very far from agreeable. Our thanks, therefore, are due most cordially to those gentlemen who have discharged, under the presidency of Colonel Cologan, the important duty of jurors of this Exhibition. Mr. Rivers Thompson, I share your hope that there may spring out of this Exhibition some permanent institution. I can assure you for myself that the recommendations which you have submitted to the Government of India shall receive our most careful consideration; and I cordially agree in thinking that it would indeed be regretable if the results of this Exhibition were not to be associated with a memorial. And I venture to hope that the memorial, whatever form it may take, may be of a permanent character, and that it may be connected in some way with your own name. But also, taking a wider view than can be found even within the limits of the vast territories which are under your sway, I venture to hope that this Calcutta Exhibition may be the first of a succession of exhibitions in India. But when I say this, I do not desire that these exhibitions should be put forward in too rapid succession. I think

they will be much more successful if they are separated from each other by a due interval of time. I hope that the example which has been set here in Calcutta will hereafter be followed in other great cities in this country; and if that should be so, I trust that the experience which has been gained here will be put to profit by those who may have the management of future Indian exhibitions: and not only by those who manage them in India, but by all European exhibitors who send their products to this country, and that understanding better, as time goes on, the requirements of this country, they will suit the articles which they exhibit more and more to those requirements. In one respect I must say that the European exhibits in this Exhibition have not altogether fulfilled some of the hopes which I at least entertained. The requirements of the wealthy have been thoroughly considered. Articles of luxury and splendour are to be found in these Courts in plenty, but little has been done to show what might be accomplished to supply the wants of the masses of the people; and specially the wants of the cultivators of the soil. Now, I have no doubt that that has arisen mainly from the ignorance of the needs of these persons in that respect. Nothing can be more natural; but nevertheless I can assure the capitalists and inventors of Europe and America that there is ample room for the exercise of skill and ingenuity to supply the wants of the agricultural classes of this country, and to provide them with implements calculated to supersede the rude and primitive instruments which they now use. No doubt to do this may be beset with various difficulties, for we all know how attached the rural natives are to the practices and habits of their forefathers; but nevertheless I believe that those who have skill and the capital to devise improved agricultural implements, would find a fair field, as time goes on, for the sale of articles of that description in this country. I mention this now in the hope that before another Exhibition is held here those who are likely to become exhibitors hereafter will turn their attention to this subject. Now, ladies and gentlemen, I have only to repeat my great gratification at the success of this Exhibition. I trust that it will tend to make the people of other countries better acquainted with the resources of India, and to show to the natives of this country some at least of the manifold inventions of Western genius; and above all, that it will be the means of opening to us new channels for trade and for commercial intercourse with distant regions of the world; and if that should be the case, you, Mr. Rivers Thompson, and those who have laboured with you and under you, will have reaped the best reward of your earnest and zealous labours. At your request, sir, I declare this Exhibition closed.

The gentlemen who had served as jurors were then presented to his Excellency the Viceroy by the Vice-President of the Executive Committee.

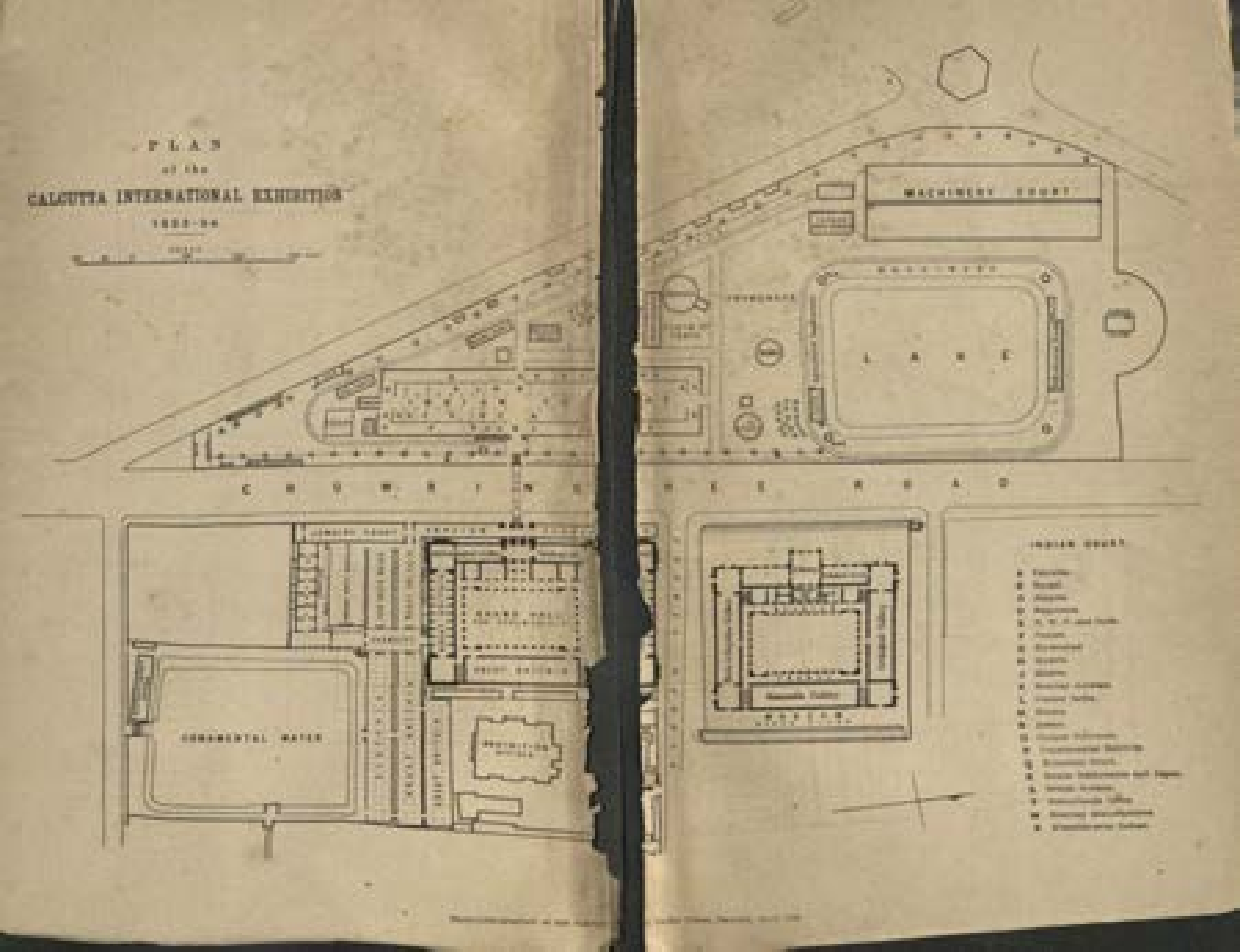
This concluded the closing ceremony, after which the procession was re-formed to the entrance of the Museum, and his Excellency the Viceroy and suite left the buildings.

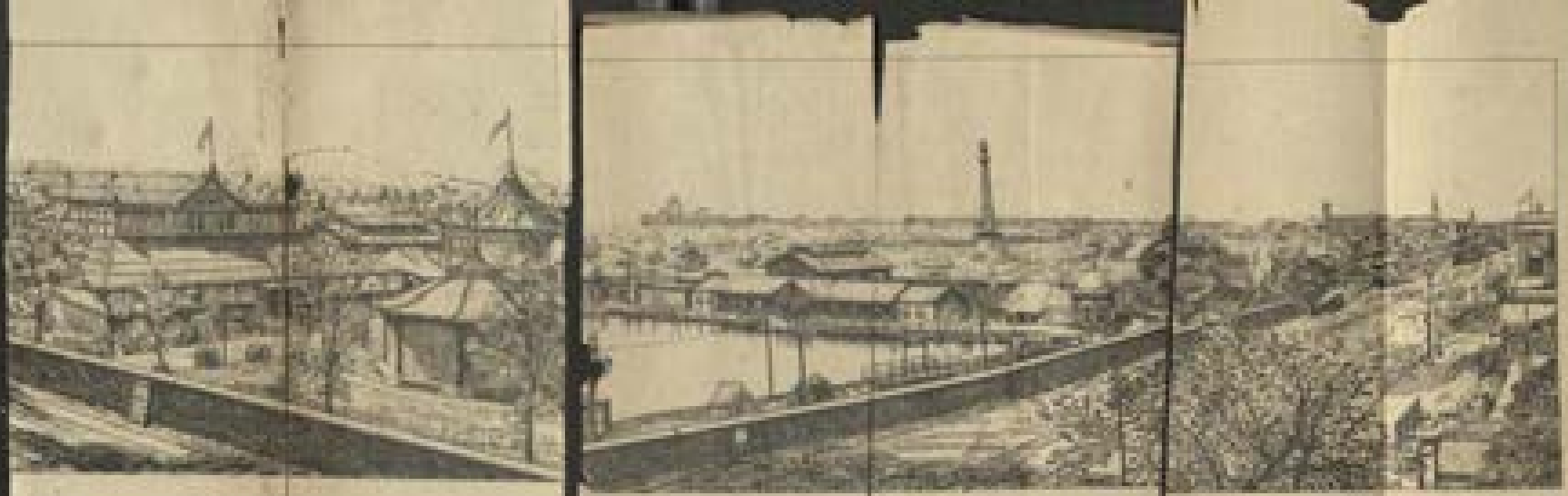
PLAN

of the

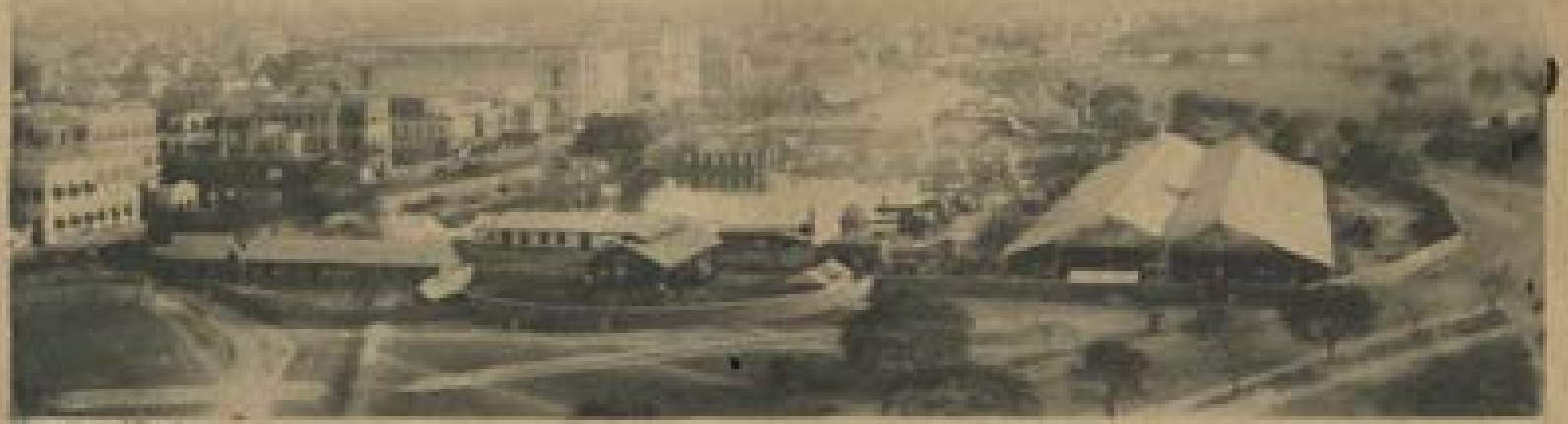
CALCUTTA INTERNATIONAL EXHIBITION

1883-84





GENERAL VIEW OF THE CALCUTTA INTERNATIONAL EXHIBITION BUILDINGS AND GROUNDS (MAIDAN SIDE).



General View of the Exhibition (Maidan side) from the Pohlerberg Monument

CHAPTER II.

Description of Buildings.

THE Exhibition buildings were, with the exception of the Art and Jewelry Court, entirely of a temporary character. Some of them were grouped round the Indian Museum, while others occupied a considerable extent of ground which was enclosed for the purpose on the west side of the Chowringhee road, and the two parts into which the Exhibition was thus divided were connected by a wooden bridge across the road. It has been explained in the previous chapter that Mr. Joubert asked for the use of the Indian Museum with special reference to the fact that it would form a prominent centre for the grouping of the temporary buildings, while at the same time it would afford valuable space in itself for exhibition-purposes. At that time there was no idea that the demand for space would be so large as it ultimately proved to be. If this had been foreseen, it is probable that that site would not have been chosen, for, though it had its advantages, these were more than counterbalanced by the very serious inconvenience of having to divide the Exhibition into two parts, separated from each other by a broad public road. There was also a great deal of expense involved in getting the Museum premises cleared and prepared for the erection of the temporary buildings, for the ground was covered by the old buildings lately occupied by the Bengal Secretariat and the open space was very limited. The only means of obtaining space for the Exhibition sheds was by demolishing these old buildings and with the *débris* reclaiming a portion of the large and deep tank which will be seen marked on the plan. About one hundred and thirty feet of the north end of this tank was filled up. When every available foot of the ground was covered with sheds, the accommodation afforded was found to be only about one-third of what was required, and it would certainly have been better, therefore, if another site had originally been selected on the maidan, where there was unlimited space available.

The sheds were built of old materials taken from dismantled Government buildings, of which a large quantity happened to be available at the time, and the design was furnished by Mr. Joubert, being the same as that of the sheds erected by him for the Christ Church Exhibition. To screen these sheds from the road, the permanent building subsequently used as the Art Gallery and Jewelry Court was erected along the Chowringhee road frontage. This was designed by Mr. E. J. Martin, the Government Architect, and was intended as the future home of the art collections of the Government of Bengal. The temporary buildings in this part of the Exhibition were practically finished by the end of June, except as regards decoration. The buildings on the maidan were then commenced, and month by month during their progress the areas had to be enlarged to meet the growing demands for space. Both the Indian Court and the Machinery Court were, when completed, double the size they were intended to be when commenced. The order to enlarge the Indian Court was given in August, and the Machinery Court in September; yet notwithstanding these frequent changes all the main buildings were ready by November. The work had to be done during the most unfavourable monsoon weather, and the material available was only such as could be obtained on loan or purchased locally. The designs, therefore, had to be improvised to suit the material; and it will be readily understood how difficult it was under these circumstances to produce any architectural effect, or to make the buildings look otherwise than what they really were,—mere extemporised sheds. They answered their purpose, however, on the whole very well, and their chief defect was that, large though they were, they were not large enough for the proper display of the goods exhibited in them, and they were ill adapted for boisterous weather. Fortunately, the only bad weather experienced was on the opening day; but sufficient damage was done by the storm which then occurred to show what a disastrous effect a repetition of such weather would have had on the Exhibition.

The general arrangement of the Exhibition buildings will be best understood by a reference to the plan that is inserted at the commencement of this chapter. This shows the relative positions of the two main sections into which the Exhibition was divided by the Chowringhee road. The foot-bridge forming the connection was a wooden structure

without an awning or covering, and was frequently inconveniently crowded by visitors passing from one side to the other. Had the ultimate size of the Exhibition been anticipated sooner, some better arrangement for connecting the two enclosures would have been adopted; but, as has already been stated, it was but shortly before the opening of the Exhibition that it was realised how large and important a part of it would be situated on the maidan, and it was then only possible to erect a bridge of the nature described.

The main entrance to the Exhibition, at which the turnstiles were placed, was at the east end of this bridge, leading into the Museum, the season ticket-holders' entrance being through the passage at the north end of the Jewelry Court. Immediately on entering the Exhibition the visitor found himself in the portico of the Museum, which had been enclosed so as to form an extension of the handsome vestibule of that building. The Museum is a very large and massive structure of two storeys, built in the form of a quadrangle enclosing a fine courtyard, which was used during the Exhibition for the opening and closing ceremonies. The French, Belgian, Mauritius, Ceylon, and Ladies' Courts, were placed in the corridors surrounding the quadrangle. The valuable collections of archæology, natural history, and science, of which the Museum is the permanent home, occupied the principal galleries, and added in no small degree to the attractions of the Exhibition. Two of these large galleries on the ground floor, namely those on the east and south sides of the quadrangle, were vacated by the Trustees and made over for exhibition purposes, and they were assigned to the British Courts. An opening was made from the south gallery into the transept which ran across the lines of temporary sheds, thus affording means of access from the Museum to the portion of the Exhibition outside of it.

Returning now to the main entrance, it will be seen from the plan that two temporary buildings were erected along the Chowringhee frontage to the north and south of it. The one to the north was assigned to the Austrian and Swiss Courts, and that to the south to the German Court. The latter terminated against the Jewelry Court, to which it served as the principal passage from the main entrance. Some pains were taken to make the exterior of these two sheds ornamental, as they occupied a conspicuous position in

front of the Museum along the Chowringhee road. But they were necessarily rather low, to avoid obstructing the light of the Museum building. They were 25 feet wide, and had an aggregate length of 300 feet.

Entering at the season-ticket entrance, the visitor found himself in a passage with the Jewelry Court on his right, the German Court already referred to on his left, and the British Court facing him. The Jewelry Court, which was also the Art Gallery, was 180 feet long by 32 feet broad, light being admitted from the east and west through barred windows at a height of 19 feet 6 inches above the floor. The floor was laid with Minton tiles, and it was intended to have decorated the ceiling and walls with colouring in distemper; but it was found that owing to the newness of the building the walls would not take colour, and the idea had to be abandoned. At night the building was lighted by three powerful gas sun-lights. Jewels and other valuable articles were exhibited in show-cases placed between railings along the centre of the room, while the walls were covered with paintings and drawings. Some of the articles exhibited were of great value, as will be seen from the description of them given in Chapter VIII. It would be difficult, indeed, to estimate the aggregate value of the exhibits in this Court; and considering how small and portable most of them were, it can easily be conceived that great precautions had to be taken for their safe custody. Having regard to the proverbial wealth of the nobles of India in the matter of jewelry, the Executive Committee hoped at one time to have been able to make this Court the most unique of its kind in the history of Exhibitions. But experience proved that the idea of comparison or competition, which is inseparable from an Exhibition, was distasteful to most of the nobles who were asked to send their jewels, and but few of them therefore responded to the invitation of the Committee. The limited collection, however, which was sent was, nevertheless, of great value, and for its better security the Executive Committee were glad to accept an offer made by the Milner Safe Company through Messrs. T. E. Thomson & Co. to send a collection of their safes to the Exhibition. Sixteen of these were placed at either end of the Court, while others were used elsewhere in the Exhibition. As a further security, policemen were posted in the Court night and day, and the Court was kept lighted all night. In spite of these precautions some robberies did occur, the most important of

which was effected by wrenching off a piece of the gold throne exhibited by the Maharajah of Burdwan.

Passing out of the Jewelry Court the visitor would next enter the British Courts. These were sheds consisting of wooden posts and frames supporting corrugated iron roofs. They were 45 feet broad, and were divided by the posts into a nave and side aisles, each 15 feet wide. The roof over the nave was higher than that of the aisles, thus admitting of clerestory windows being made on both sides along the whole length of the sheds. The floors were of brick concrete with a surface of cement, and the outer walls were also built of brick to within two feet of the eaves. The nave formed the main passage, and in it were placed trophy cases, while the aisles were allotted, as far as possible, in bays or units of length of 12 feet to exhibitors, who were thus, by raising partitions, able to form rooms in which they could arrange their exhibits according to their own taste. The level of the transept was four feet higher than that of the other Courts, and looking down from it an excellent view of the Courts on both sides could be obtained.

Moving southward along the transept the visitor would see to the west the New South Wales Court, and to the east the Victorian Court. The construction of these was the same as that of the buildings occupied by the British Courts. At the south end of the transept there was a gate which afforded access to the gardens surrounding the lake, which was a piece of water about two acres in extent. Turning to the south, and following the pathway through the gardens, the visitor would find his way to the refreshment-rooms. These were contained in a light iron shed open on the side facing the lake, and immediately beyond them there was some very effective rockwork and a waterfall. The creepers and flowers trained up the trellised sides of the refreshment-rooms, the trees in the background, and the statues half hidden in the foliage, made the building extremely picturesque. The walls enclosing the lake and gardens were covered with luxuriant creepers, and at their base beds of tropical flowers added their rich colouring to the gaiety of scene.

Re-entering the transept and turning to his left, the visitor would find himself in the Court allotted to musical instruments. Here there was always a crowd of natives listening with wonder to some splendid orchestrions exhibited in it. At the end of this Court was the entrance to

the aquarium, built by the enterprise of Mr. Hantelmann, and the first ever seen by any natives in India. Other Courts also led off from the Music Court, as will be seen by reference to the plan, the principal ones being the South Australian and Tasmanian Courts.

Returning to the main entrance of the Exhibition, and crossing over the bridge already mentioned, the first building seen on the maidan was the Indian Court, the entrance to which, immediately opposite the bridge, was through a massive gateway carved in solid stone, the work of Gwalior artisans, exhibited by his Highness the Maharajah of Gwalior. It was designed by Major H. B. Keith, Assistant Curator of Ancient Monuments in Central India, and erected entirely at the expense of his Highness the Maharajah. It was unfortunately late in its arrival, and was not completed by the opening day; but the erection was taken in hand by the Public Works Department, and it was shortly one of the most conspicuous features of the Indian side of the Exhibition.

The building known as the Indian Court was 488 feet long and 120 feet broad. It was composed of a main inner building with a lean-to annexe surrounding it. The main building was assigned half to the Indian Artware Courts and half to the Calcutta Court, and in the surrounding annexe were placed the Indian economic collections, the exhibits from Assam, the Central Provinces, Japan, the Straits Settlements, British Guiana, Netherlands-India, and others, as described in subsequent chapters. Entering through the Gwalior arch the visitor found himself in the transept or central hall, in which the Bengal exhibits were shown. The centre was occupied by Osler & Co.'s crystal fountain, and on either side were two full-sized models of elephants made in papier machè by Jeypore workmen and caparisoned in the Jeypore and Bengal styles. To the right of the transept was the Calcutta Court, a description of which is entered in Chapter VIII. To the left were the Indian Artware Courts, arranged as shown on the plan. The general effect of these Courts was extremely gorgeous, the form of the building being well adapted to the display of the rich carpets, arms, and fabrics for which India is so famous. The roof was supported on heavy cast iron pillars, which divided the building into a central nave with aisles on each side 24 feet in width. The nave formed the main thoroughfare, trophy cases being erected down the

centre. In either aisle the spaces between the pillars were assigned to the different Indian provinces. The roof of the aisles was of a saw-edge form, admitting the light from the north and giving a large ceiling space, on which the carpets and articles already mentioned were hung and stood out well in contrast with the dark-green and gold colour of the supporting pillars. The centre nave was considerably higher than the side aisles, the light being admitted from either side through triangular clerestory windows, the spaces between which were ornamented with shields and cloth of eastern design. The annexe running round the main building was also 24 feet in breadth, with masonry walls and angle iron framework carrying a corrugated iron roof. The temporary nature of this part of the Indian Court was more apparent than that of the main building, but, as already stated, it was erected to supply a deficiency in space that was only appreciated on the receipt of telegrams that arrived in August.

Beyond the south entrance of the Indian Court was a small building erected by Mr. Joubert for the exhibition of glass-blowing and models of figures in wax. To the east of this were some tents exhibited by a native firm in the North-Western Provinces, and on either side of the tents the Hindu and Muhammadan refreshment-rooms were placed. Turning to the north, and following the line of Messrs. Decauville Ainè's portable railway, the tents exhibited by the Bengal Jail Department, the silos exhibited by General Wilkinson, and the Military Court, were next reached. The Military Court was a building whose structure should be mentioned. A part of it was built after a design for a temporary barrack made by General Wilkinson, and formed in itself one of the military exhibits. The walls and roofs were of corrugated iron and double, a space of 6 inches being left between the two sheets of iron. The flooring was of wood and raised to a height of about one foot above the ground. The theory involved in this design was that the sun's rays heating the external wall and roof would cause an upward current of air in the space between the inner and outer surfaces of the walls and roof, which being connected with the space below the floor would continually draw the vitiated air from the room and eject it through openings along the ridge made for this purpose.

Still following the line of the portable railway, the visitor would first pass on his right Messrs. Main & Co.'s

exhibit of an iron shed suitable for a tea-factory, in which were placed the exhibits of the Agri-Horticultural Society of India, then the shed containing timbers from the Andaman and Nicobar Islands, the Indo-Chinese Court, tents made by the Elgin Mills and Muir Mills, the panorama of Balaclava, the promenade, and a shed erected by the Carnac Iron Works for the display of their exhibits, the most important of which was a large steam-launch. On his left he would pass the bazar stalls and Priestman's dredger, and then he would find himself in the Machinery Court.

The bazar stalls were provided entirely for the use of native traders, who, it was anticipated, would find a profitable market for their art manufactures, the encouragement of which was one of the most important objects of the Exhibition. Great difficulty was, however, experienced in inducing the lessees to offer a suitable class of goods for sale or to place a reasonable price on the articles they did show. But few sales were therefore effected; and as the occupants did not care to retain the stalls, they were finally used for the accommodation of exhibits. The Indo-Chinese Court, containing articles from Cochin China and Tonquin, was remarkably effective. It was intended at first to find space for these exhibits in the annexe to the Indian Court, as owing to the late receipt of the application for space no other arrangement was possible. The Commissioner from Tonquin, however, on his arrival decided that it would be better to erect a building for himself in the style of an Annamite house; and the work was immediately set in hand by Messrs. Burn & Co. after a design by Mr. Marechale, the engineer who accompanied the Commissioner from Indo-China. The greatest credit is due to both for the speedy erection of the building and the remarkable elegance of the design.

The Machinery Court was located in the north-west corner of the Exhibition enclosure. This arrangement was undoubtedly the best that could be made under the circumstances, the one drawback being that the prevailing wind being from the north-west, brought the smoke of the engines on to the promenade, and sometimes into the north end of the Indian Court. Of the space occupied, about 60,000 square feet (or nearly an acre and a half) was roofed in, and about as much more was open. The covered portion consisted of a corrugated iron shed 410 feet long, 144 feet wide, excluding eaves, and in height varying from 30 feet

at the ridges to 10 feet at the eaves. It was supported by angle irons, old rails, and for 260 feet of its length by a row of masonry pillars down the centre, along which ran the shafting for the machinery in motion. This shafting was turned by a fixed engine at one end, supplied with steam from a boiler outside the shed. Although the whole structure was a makeshift adapted to utilise as far as possible materials in hand, it would have been difficult to design anything better adapted for the purpose. It was thoroughly well ventilated, and in fine weather left nothing to be desired. In this shed machinery of all kinds, engineering material, appliances, and plant, were arranged in four long rows from end to end, intersected by pathways seven feet wide for visitors. There was also a pathway the whole way round the shed under the eaves, so that there was hardly any exhibit that could not be well seen. It was situated parallel to, and about 40 or 50 feet distant from, the west side of a large lake kept always full of water, which supplied all the engines, and also served to show off pumps and other machines for lifting water. The intermediate space was covered with various machines, as was also a considerable extent of ground to the north of this lake, and again to the south of and outside the shed.

On the northern edge of the lake there was a building erected by Messrs. Burn & Co. for the exhibition of Bell Coleman's refrigerating machinery, which attracted much attention. Here there was also another refreshment-room, and beyond it, further to the north, a teak wood shed, erected by the Bombay Burmah Trading Co. to illustrate economy in construction by the use of small scantlings. It was used as a theatre by the Burmese Poay or theatrical company. From this point Messrs. John Fowler & Co.'s light railway started and ran frequent trains to the bridge.

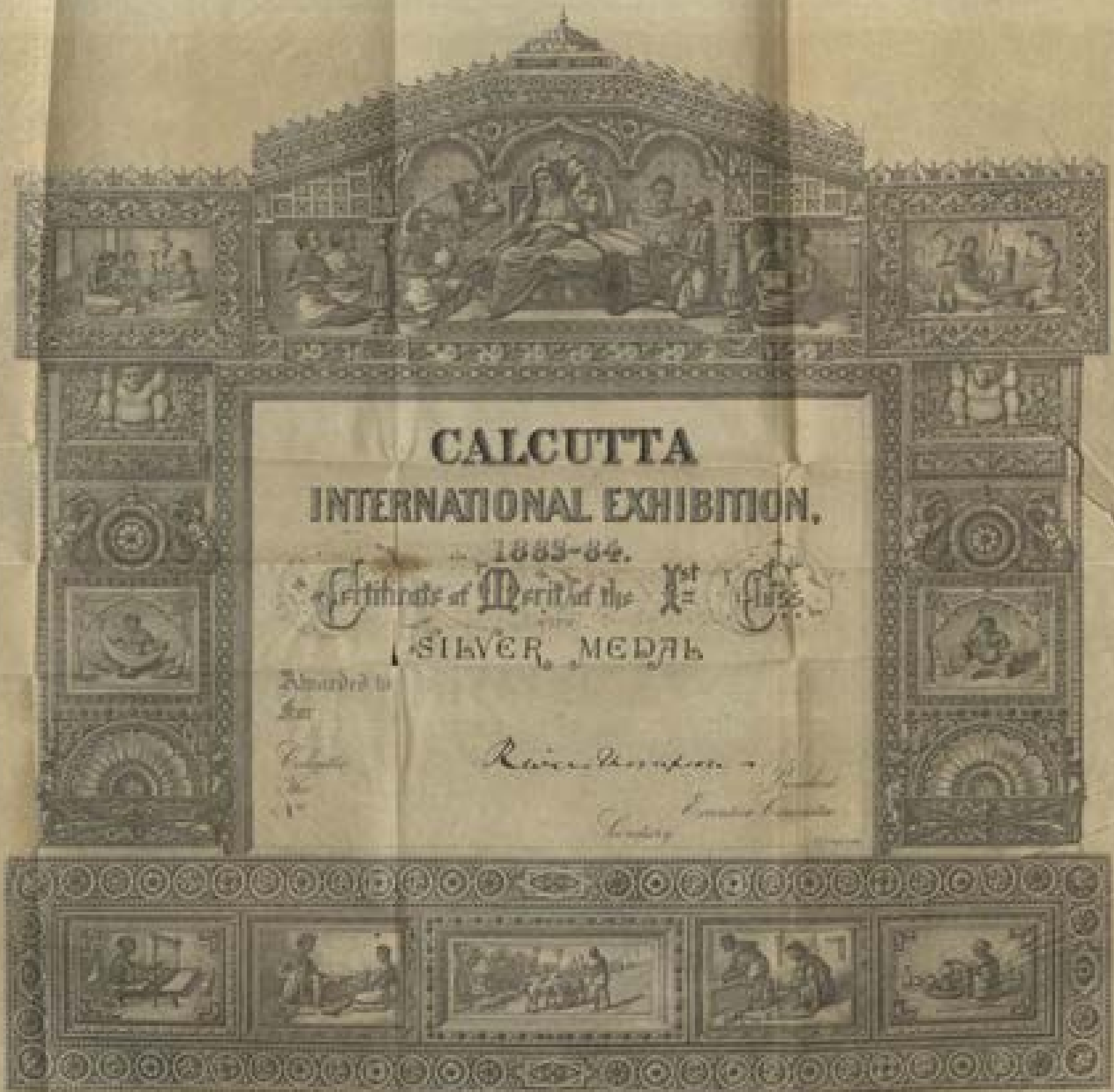
The space between the machinery and agricultural implements on the south of the lake and the Indian Court was laid out as a promenade with bandstands and other garden furniture, while the walls of the Indian Court were surrounded with shrubs, native agricultural instruments, and life-like, full-sized clay figures of aboriginal Indians, clad each in his own appropriate costume. The grounds were very effectively laid out, so as to make the most of all the existing trees and shrubberies; and though it was only possible to begin the work a few days before the opening

of the Exhibition, when all the heavy traffic had nearly ceased, their finished appearance was very striking.

The actual amount of ground enclosed for the Exhibition buildings and offices amounted to nearly 22 acres, and the covered space to 300,000 square feet.

The whole of the building operations were carried out by the Public Works Department of the Government of Bengal, and the Executive Committee are much indebted to the gentlemen named below for their untiring and successful efforts to secure the punctual completion of the buildings:—

E. J. Martin, Esq.	...	Government Architect.
Major A. C. Bigg-Wither	...	Superintendent of Works.
H. N. Cloëte, Esq.	...	Executive Engineers.
C. A. Mills, Esq.	...	
W. Girling, Esq.	...	Honorary Assistant Engineers.
Rai Jadunath Roy, Bahadur	...	
Rai Prosono Coomar Banerjee, Bahadur.	...	
Rai Khetter Chunder Banerjee, Bahadur.		Contractors.
Rai Gungo Bisto Roy, Bahadur		



CALCUTTA
INTERNATIONAL EXHIBITION,
1883-84.

Certificate of Merit of the 1st Class

SILVER MEDAL

Awarded to

Her

Calcutta

Rivers Thompson

President

Executive Committee

Secretary

COMMEMORATION MEDAL.

Struck and issued by order of the Government of Bengal.

Photo-Gravure, Survey of India Offices, Calcutta, June 1902.

AWARD MEDAL.

Photo-Collotype, Survey of India Offices, Calcutta, June 1885.

CHAPTER III.

Organisation of Juries.

Mr. Joubert submitted to the Executive Committee on the 13th of August 1883 a proposed set of regulations as to judging and awards, based on the regulations that had been in use at the Exhibitions in which he had taken part. These were carefully considered in connection with the rules adopted at the late Melbourne and Amsterdam Exhibitions, and with especial reference to the requirements of an Indian Exhibition, at meetings held on the 3rd and 10th of September. After considerable modification they were passed at a meeting held on the 17th idem, and ordered to be published. On the 24th of October a letter was received from Messrs. Henry S. King & Co. pointing out, with reference to rule No. 9 of the regulations thus issued, which concluded with the words 'the decision of the jury shall in all cases be final,' that the right of appeal from the decision of a jury, when there was reason to believe that bias might exist, was customary, and was very highly prized, and that the omission of all mention of this right from the jury regulations would give rise to discontent. This was laid before the Executive Committee at their next meeting, and Mr. Thomson, the Secretary to the Victorian Commission, who was present at the invitation of the Committee, expressed a similar view. The question was further discussed at a meeting held on the 19th December, and it was then finally decided to admit the right of appeal for review of an award, but only on the ground that the exhibit had been overlooked. Rule 9 was accordingly altered, and the revised rules were finally published in the form printed in the Appendix.

To facilitate and expedite business, the Executive Committee appointed from their own number the gentlemen named in the margin to form a Sub-Committee to dispose of all matters connected with the election of jurors. Lieut.-Col. F. J. Fitzgerald Cologan was appointed Superintendent of Juries, and undertook to supervise the actual work of the juries and to be a means of communication between them and the Executive Committee. The Sub-Committee met daily at 3 p.m. during the elections. They examined the lists of persons proposed for election and the number of votes given to each, and then decided who were elected. They also nominated the third member required to complete the jury in each class. Rule 5 required that the Secretary should at every election read out the names of all exhibitors in the class for which the jury was being appointed, in order that each, on his name being called, might name a juror. In practice this was found not to be possible. The reading of so large a number of names would have taken up such a very long time that it would scarcely have been possible to complete a class in one day, and the jury elections would not have been concluded before the closing of the Exhibition. Under the circumstances it was decided that the names should be taken as read, and that the exhibitors who chose to attend the election should merely be asked in turn whom they represented and for whom they voted. In this way the elections were not only quickly completed, but apparently gave satisfaction to all parties. As a fact not more than 100 or 150 exhibitors voted. The remainder left it to the Committee to nominate jurors and to select whom they pleased. Of those who did vote, many elected to leave the nomination in the hands of the Committee, whilst others nominated freely. Thus, though the presence on each jury of some one or two members selected by the exhibitors was secured, practically the selection was almost entirely left to the Executive Committee, who experienced in some cases great difficulty in obtaining a full jury. This was owing to the fact that the number of experts in Calcutta is not very large, and that this number was further reduced by the inability of some to spare the necessary time, and by the disqualification of others through their being exhibitors or commercially interested

SUB-COMMITTEE.

Lieut.-Col. J. F. F. Cologan, *Superintendent of Juries.*
Mr. W. H. Grimley.
„ C. S. Bayley.
Dr. J. Anderson.
Mr. H. B. Medlicott.
„ M. H. Jackson, *Secretary to the Executive Committee.*

in the result of the judging. As soon as the Sub-Committee had examined and seen who had the majority of votes in each class, and had named a representative on behalf of the Executive Committee, the Secretary to the Executive Committee addressed each of the selected gentlemen, asking him whether he was willing to serve as a juror in the class specified. If, as was often the case, a reply in the negative was received, the Sub-Committee selected some other gentleman from among the exhibitors' nominees if possible, and he was addressed to the same effect. This procedure was continued in each class until the required number of gentlemen had accepted the office of juror. The result of the election was then immediately advertised, and notice given, in accordance with rule 7 of the jury regulations, that should no objections be raised to their appointment within 48 hours, the jury would proceed forthwith with the work of judging. The number of objections submitted was exceedingly small—not more than fifteen—and these were all disposed of by the Sub-Committee, and, with one exception, disallowed as being frivolous or of little or no importance. As each advertisement was issued notifying the election of a jury, the gentlemen composing it were invited to attend at the Superintendent's Office on a fixed date and hour, when, as required by rules 8, 9, and 10, they received their juror's badges, a copy of the jury regulations, the official catalogue, and the schedules submitted by the exhibitors in their class. They then elected their Chairman. The Superintendent gave them such instructions as were deemed necessary to assist them in their work, and they either proceeded at once to enter on their duties or fixed a date on which they would take them up. This date was notified to exhibitors on the official notice-board at the season-ticket entrance, in the official daily programme, and in the *Englishman*, *Indian Daily News*, *Statesman*, and *Indian Mirror* newspapers. Exhibitors were at the same time asked to meet the jury at the time and place fixed, and to conduct it to their exhibits. On completion of its work, each jury submitted to the Superintendent of Juries a signed report as required by rule 15. A list of awards was then drawn up by him in accordance with this report, and after receiving the sanction of the Executive Committee duly published.

Under the provisions of rule 9 of the jury regulations the decision of a jury was in all cases final, unless an application

for a review of the award on the ground that the exhibit had been overlooked was lodged, accompanied by a fee of Rs. 30, within 24 hours of the publication of the award. The number of appeals so lodged was 57, of which three were admitted, while the others were rejected. All appeals were on receipt first referred to the jury concerned for its opinion and report, and these were considered in connection with the appeal by the Executive Committee. Many of the appeals were submitted on very doubtful grounds. The plea that an exhibit had been overlooked was rarely found to be sustainable, the fault lying generally with the exhibitor, who had either failed to schedule his exhibit properly, to afford sufficient explanation of the merits claimed, or to attend and point all these out to the juries. Many, too, appealed on the ground that as they had always obtained the highest award at previous exhibitions they should be similarly treated now. On the whole the number of appeals was very small, being but a little over 1½ per cent. on the total number of awards made, thus testifying to the satisfactory manner in which the jury work was carried out. All adjudications were published once a week, on Mondays, about 1 p.m., and appeals were admitted up to 6 p.m. of the Tuesday following. This system allowed of the awards being known in time to be reported by the outgoing homeward mail, which, during the cold season, leaves Calcutta on every Tuesday.

The paucity of information furnished by some of the exhibitors or their agents in the schedules submitted by them to the juries caused much embarrassment. Great pains were taken to give in detail all the awards previously gained, but in many cases little information could be obtained as to the merits claimed for the exhibit. Some exhibitors gave the names of the maker and exhibitor and nothing else. Others, knowing that cheapness was one of the elements of merit, quoted prices at which it was quite impossible for them to supply such goods to the market. Others, again, scheduled parts of collective exhibits for adjudication by separate juries, and then again scheduled them as a collective exhibit, thus infringing rule 14. In some cases firms of repute obtained lower awards than their younger and less known rivals. This was owing to the fact that the former exhibited relying on their reputation, while the latter not only made strenuous efforts to obtain the highest award, but even in some cases exhibited articles

which had evidently been specially made for the Exhibition, and were far superior to the ordinary trade stock. In only two instances did juries avail themselves of their right to call in the aid of experts under rule 11, and in but few cases did they invite co-operation from jurors of other classes. In class 53, Minerals and Metallurgic Products, the jury declined to make any awards on samples of ores and coals as such, on the ground that want of knowledge of the mines from which they were extracted rendered it impossible to judge whether the exhibits were ordinary or special samples, and also that the specimens were not large enough to admit of experiments being made, and the jury had neither time, opportunity, nor means for carrying on these test experiments.

Indian artware was not taken under any of the classified heads for adjudication, but had a special jury to examine and report on its merits.

The nomination of jurors commenced on the 3rd of January and was concluded on the 9th, while the actual work of judging was well in hand on the 19th. The elections of jurors, collection of schedules, publication of the lists of jurors, assembly of juries for adjudication, and the work of adjudication itself, required great exertion in order that all might be finished by the closing of the Exhibition, on the 10th of March, the last award list being only promulgated on the morning of that day. The work undertaken by the juries thus occupied less than two months, and it will be readily understood that it was impossible for the juries to put all the exhibits to practical tests in so short a space of time. The reports of the juries were therefore in most cases rather meagre, simply consisting of a tabulated form naming the exhibit and the award, and referring in the briefest terms to the reasons that led them to make the award. It should be remembered, however, that all the jurors were business men, who carried out the arduous work of judging in addition to their ordinary duties. The Executive Committee desire to place on record their high sense of the great public spirit shown by these gentlemen and their appreciation of the immense value of their services to the Exhibition. At the same time they wish to recognise the importance of the office of the Superintendent of Juries, and to state their obligations to Colonel Fitzgerald Cologan, to whose unflagging energy and zeal, tact and good temper, the harmonious co-operation of the juries and the exhibitors is almost entirely due.

A list of the jurors will be found at page 358, and of the awards at page 380. The numbers of awards of different classes were as follows:—

Certificate of Merit of the	First Class with Gold Medal	...	723
Ditto	First Class with Silver Medal	...	1,175
Ditto	Second Class with Bronze Medal	...	1,031
Ditto	Third Class ...	...	497
Ditto	Fourth Class ...	...	117
Ditto	Fifth Class ...	....	47

The form of certificate of award was designed by Babu Anunda Persaud Bagchi, of the Calcutta School of Art, under the direction of Mr. Jules Schaumburg, the Officiating Principal, and was engraved by the heliogravure process at the Surveyor-General's Office under the superintendence of Major Waterhouse, to whom the Executive Committee is much indebted for the valuable assistance he has afforded them. The award medal was provided by Mr. Joubert, and his original intention was to have had the medal struck in the Exhibition. There was some delay, however, in procuring the dies from England, and ultimately it was arranged that the medals should be struck at the Calcutta Mint. As this work had hardly begun when it was necessary for Mr. Joubert to leave Calcutta, the responsibility of seeing it completed has been undertaken by the Executive Committee. The receipts and disbursements connected with it will be found entered in the general financial statement at the end of the next chapter.

CHAPTER IV.

Financial Arrangements.

In the description given in Chapter I of the origin of the Calcutta Exhibition it has been explained that when Mr. Joubert first submitted his proposals, he asked only the patronage and support of the Government and the free grant of sufficient space on the maidan on which he might erect the necessary buildings at his own cost. The undertaking was intended, in fact, to have been a private enterprise on his part under the patronage of Government; and if this intention had been carried out, the Executive Committee would have had no concern with the financial arrangements. But circumstances occurred to prevent this idea from being realised. The few months' experience Mr. Joubert gained of India in 1882 gave him an insight into the difficulties attending the execution of such an undertaking as his in this country, and made him more disposed to lean upon the Government for assistance. Very soon after sanction was first given to his enterprise, he asked that a part of the Indian Museum building should be placed at his disposal to form the central feature of the Exhibition, and that he should be allowed to erect such temporary buildings as might be necessary in the space surrounding it instead of on the maidan. Subsequently he proposed that Government should allow the Public Works Department to begin the erection of the temporary buildings for him during his absence, on the understanding that he would reimburse the cost. Both these proposals were sanctioned before he left Calcutta in December 1882, and by the time he returned in June 1883 the

sheds on the east side of the Chowringhee road were practically completed. It happened then that he was not in a position to reimburse the whole of the expenditure that had been incurred on them, or to take upon himself the responsibility of going on with the remainder of the building operations necessary for the completion of the Exhibition. Under these circumstances, in view of the absolute necessity of having the Exhibition ready in time, the only alternative was for the Public Works Department to carry on the buildings to completion. As a guarantee for the repayment of the expenditure, Mr. Joubert entered into an engagement to hand over to the Executive Committee the whole of the receipts of the Exhibition from space-money, gate-money, or any other account, and to allow his accounts to be audited by Messrs. Browne and Lovelock of Calcutta. He also agreed to a daily check being taken of the admissions at the turnstiles. It thus came about that the responsibilities of the Executive Committee were greatly enlarged, and the Exhibition became to all intents and purposes a Government undertaking. At the end of this chapter will be found a general statement of receipts and disbursements, which has been drawn up from the accounts compiled by Messrs. Browne and Lovelock. This shows at a glance the financial results of the Exhibition. The gross receipts amounted to Rs. 5,02,858-2-0, which includes the value allowed by Government for the sheds on the east side of Chowringhee taken over at the close of the Exhibition. The gross expenditure amounted to Rs. 4,60,835-5-7, thus leaving a balance to credit of Rs. 42,022-12-5. From this balance provision had to be made by Mr. Joubert for his personal expenses, the salaries of his secretary and foreman, the allowances paid to his sons for their services, &c. It would be manifestly inexpedient to enter into any detail here as to this class of expenditure, but it may be noted that the accounts show that Mr. Joubert's actual drawings amounted to Rs. 43,413-6-5, which is Rs. 1,390-10-0 in excess of the balance now brought out to credit by the account.

The sums actually paid by Mr. Joubert from time to time to the Executive Committee in pursuance of his engagement as receipts of the Exhibition amounted in the aggregate to Rs. 2,00,000. Out of this a sum of Rs. 13,659-12-5, being the cost of the police employed on the Exhibition, was refunded to him in consequence of the decision of the Lieutenant-Governor that this charge should be borne by Govern-

ment. The account between the Executive Committee and Mr. Joubert stands therefore as follows—

Dr. *Executive Committee in account with Mr. Joubert.* *Cr.*

	Rs.	A.	P.		Rs.	A.	P.
Receipts of Exhibition collected by Executive Committee, as detailed in general statement, page 49 ...	44,336	14	0	Disbursement by Executive Committee, as detailed in general statement, page 49 ...	32,137	11	7
Value allowed by Government for sheds taken over ...	1,55,737	0	0	Cost of buildings, as per Public Works Department statement, page 50 ...	3,55,667	0	0
Cash paid by Mr. Joubert— Rs. 2,00,000 0 0							
Less refund— 13,659 12 5							
	1,86,340	3	7				
Balance ...	1,390	10	0				
Total ...	3,87,804	11	7	Total ...	3,87,804	11	7

This account shows a balance against Mr. Joubert, as before mentioned, of Rs. 1,390-10-0. But it cannot be finally closed till the cost of striking and issuing the whole of the medals and certificates has been adjusted, and this will take some time. Any balance shown by the account when it is finally closed will be written off against Government, in accordance with an arrangement for mutual acquittance made with Mr. Joubert when he was about to leave Calcutta.

The account between Mr. Joubert and the Executive Committee does not, however, represent the whole cost of the Exhibition. The following charges were incurred by the Government of Bengal—

	Rs.	A.	P.
1. Executive Committee's office establishment and contingencies...	22,215	2	3
2. Police	13,659	12	5
3. Commemorative medals	9,686	13	5
4. Decorating and furnishing Indian Courts, and providing show-cases and stands, &c., &c.	24,818	0	0
5. Grant for purchase of Indian artware, &c ...	60,000	0	0
Total ...	1,30,379	12	1

With regard to the first of these items it is necessary to explain that, for the reasons already mentioned, the work thrown upon the Executive Committee was much heavier than was anticipated when the Exhibition was first started. For all practical purposes the entire administration

of the undertaking devolved upon the Executive Committee, and the office work entailed by it was very considerable. The clerical work connected with the jury awards was especially laborious, and a large office establishment had to be maintained for it. The expenditure entered above includes only the cost of this establishment, and not the salaries of the principal Government officers employed on the undertaking, which were charged against the departments to which they belonged. As regards the second item, the charge for police, it was at first arranged that this should have been recovered from the receipts of the Exhibition, but afterwards, on Mr. Joubert's representation that the Exhibition had proved to be absolutely profitless to him, the Lieutenant-Governor remitted the charge. As regards the third item, medals, it was arranged that while Mr. Joubert should provide the exhibitors' medals, Government should provide the complimentary ones to be presented to members of the General Committee, jurors, and others who gave the Exhibition the benefit of their assistance and influence. The Government medal is a very satisfactory piece of work. It was made by Messrs. Wyon from designs prepared in the Calcutta School of Art under the direction of its principal, Mr. Jules Schaumburg. The fourth and fifth items in the list represent the expenditure incurred by Government in its capacity of exhibitor. The Government of Bengal placed Rs. 50,000 at the disposal of the Government of India for distribution among other provincial Governments for the purchase of representative works of art from all parts of India, and Rs. 10,000 at the disposal of the Executive Committee for the collection of exhibits from Bengal. The money thus advanced was very profitably laid out by the several local Governments, who advanced equivalent amounts and more on their own part and sent very handsome collections indeed to the Exhibition. At the close of the Exhibition the Government of Bengal was allowed to make a selection of articles from these collections to the value of its advances, and these now form the nucleus of the Art Gallery and Economic Museum of Bengal. This outlay is therefore amply covered; but of course the greater part of the expenditure, on the decoration of the Courts and on show-cases and stands, was unremunerative. The amount seems large, but it is not really so when compared with the sums spent by private exhibitors on their show-cases and on the general setting up of their exhibits. For instance,

the public of Calcutta subscribed Rs. 11,000 for the general decoration of the Calcutta Courts, and at the same time exhibitors in this Court provided their own show-cases and paid for their own special decoration. The aggregate amount spent on their Courts must therefore have been much larger than the sum spent by Government, for their show-cases were of an expensive kind, while those in the Government Courts were of the cheapest description. The expenditure incurred by the Government of Bengal did not, however, represent the whole cost of the decoration and setting up of the Indian Courts, for the several local Governments contributed in this respect very materially from their own resources. The general result was very satisfactory, inasmuch as the Indian Courts were admitted to be the most attractive feature of the Exhibition, and, judged by this result, the cost to the Government of Bengal was certainly not excessive.

The following conclusions, drawn from the experience of the Calcutta Exhibition, may be usefully recorded here for guidance in the management of future Exhibitions in India.

The gross outlay on buildings, including such incidental charges as laying out the grounds and providing sanitary arrangements, enclosure walls, &c., amounted to Rs. 3,83,526. The whole covered area of accommodation provided in the Exhibition was about 300,000 square feet, of which, however, only about 200,000 square feet were newly built for the occasion, the remainder being provided in the Museum buildings or built at the charge of exhibitors themselves. This gives an average rate of Re. 1-14-8 per foot. As the Calcutta buildings were constructed to a great extent of borrowed material, and were defective in many respects, this rate would not be sufficient to allow on a future occasion. On the other hand, some economies might have been effected if more time had been available. A rate of Rs. 3 per square foot of covered area provided may be regarded as the minimum sum required for the buildings of an Exhibition, and this would leave a margin for laying out grounds, &c. About one-third of the outlay may be counted on as recoverable from the sale of materials after the close of the Exhibition if the buildings have to be dismantled and removed; but if they are permanent, a larger proportion would of course be recoverable.

In the Calcutta Exhibition the accounts show an expenditure of Rs. 6,409 on advertising. This was principally incurred by the Executive Committee in the publication of

jury notices and awards. There was a great deal of printing done at the Bengal Secretariat Press for which no charge was made. Many thousands of vernacular notices were printed at the Government Press and circulated through the agency of the police all over Bengal. If the cost of this had been included in the charge for advertising, the amount would have been three or four times as much as has been entered. The issue of the vernacular notices was absolutely necessary for the success of the Exhibition.

The expenditure on bands and amusements was about Rs. 7,500. So far as bands were concerned, the expenditure was insufficient. A good band should have been permanently engaged, as nothing adds so much to the attractions of an Exhibition as good music. In the early part of the Calcutta Exhibition the want of it was much noticed.

The receipts of the Exhibition from space and entrance-money, and from tenders for refreshment-bars and other fees, amounted to Rs. 3,18,759. This is very satisfactory, considering that the charge for admission was only 4 annas, or the equivalent of sixpence, which is half the rate generally charged in European Exhibitions, and that the Exhibition was open only for three months. A higher rate than 4 annas would have been prohibitory to the mass of natives. On the other hand, the mass of the natives of India are slow in getting news of the existence of any show like an Exhibition, and still slower in making up their minds to undertake the journey and pay the money for going to see it. These facts indicate that while it is necessary to charge only half the ordinary European rate for admission to an Exhibition in India, it is advisable to keep such an Exhibition open, if possible, twice as long as is customary in Europe. It is probable that it would pay to spend more money on the buildings so as to adapt them to the climate of India, and then keep the Exhibition open for at least a year. If the Calcutta Exhibition could have been kept open even one month longer, the receipts would have covered all expenses, including those borne by Government; and if it could have been kept open two months longer, it would have yielded a handsome profit.

CALCUTTA INTERNATIONAL EXHIBITION.

General Statement of Receipts and Disbursements.

Receipts.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Through Mr. Joubert and his Agents.			
Space-money	74,511 0 1	.....	
Less amount still due by agents ...	2,973 1 1	71,537 15 0	
Tenders for refreshment-bars, catalogues, &c.	.....	7,136 10 0	
Licenses to sell in Exhibition ...	.....	4,071 8 0	
Gate-money	.....	1,78,044 15 9	
Season-tickets	.....	30,201 9 3	
Sundries	.....	216 10 0	
Value realised by sale of building material	.....	11,575 0 0	3,02,784 4 0
Through Executive Committee.			
Space-money	19,880 9 9	.....	
Tenders for refreshment-bars, &c.	6,310 0 0	.....	
Licenses to sell in Exhibition ...	330 0 0	.....	
Fees on appeals against awards ...	1,029 2 3	.....	
* Deposits of exhibitors for duplicate and gold medals ...	15,830 0 0	.....	
* Deposits of exhibitors for duplicate certificates	957 2 0	44,336 14 0	
Through Public Works Department.			
Value of sheds taken over by Government	1,06,783 0 0	.....	
Value realised by sale of building material ...	45,385 0 0	.....	
Value realised from exhibitors for work done	3,569 0 0	1,55,737 0 0	2,06,073 14 0
Total ...	.....	.....	5,02,858 2 0

Disbursements.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Through Mr. Joubert and his Agents.			
Plant and buildings	.....	27,859 12 10	
Wages, &c.	.....	2,831 11 0	
Bands and amusements ...	.....	6,998 7 0	
Advertisements	.....	1,337 15 0	
Office expenses, telegrams, &c. ...	.....	6,522 10 9	
Commission to agents, &c. ...	.....	5,806 7 3	
Gas and electric light ...	.....	18,531 14 3	
Motive power	.....	2,681 7 0	
Sundries	.....	460 4 11	73,030 10 0
Through Executive Committee.			
Advertisements	4,971 12 0		
Band and sundries	485 15 6		
* Medals and medal-cases (estimate)	25,711 13 7		
* Certificates of award (estimate)	968 2 6	32,137 11 7	
Through Public Works Department.			
Buildings, as per detailed account rendered by Superintendent of Works on the next page ...	.....	3,55,667 0 0	3,87,804 11 7
Balance ...	.....	.....	42,022 12 5
Total ...			5,02,858 2 0

* Certificates and medals are still being issued as fast as they can be procured from the Mint, and the account is not finally closed.

CALCUTTA INTERNATIONAL EXHIBITION.

Statement of expenditure incurred by the Public Works Department on Buildings, &c., and sums recovered on account up to 30th November 1884.

No. of items.	Brief Description of Works.	Total expenditure.	Total recoveries.
		Rs.	Rs.
1	Sheds east of Chowringhee ...	94,815	85,333
2	Do. along front of Museum ...	23,833	21,450
3	Indian Court buildings ...	1,09,121	.....
4	Machinery shed ...	39,225	.....
5	Wall round maidan enclosure ...	10,994	.....
6	Bazar sheds ...	3,706	.....
7	Bridge over Chowringhee ...	6,861	.....
8	Engine-house for electric light ...	4,352	.....
9	Latrine and urinals ...	8,999	.....
10	Police shed ...	1,890	.....
11	Water supply ...	3,531	.....
12	Military shed ...	3,628	.....
13	Native refreshment-rooms ...	513	.....
14	European ditto ...	6,534	.....
15	Post and Telegraph offices ...	261	.....
16	Laying out grounds and draining them ...	11,081	.....
17	Tools and plant ...	659	.....
18	Materials supplied ...	295	.....
19	Contingencies and sundries ...	1,593	.....
20	Value of work done and materials supplied to exhibitors (account closed).	3,569	3,569
21	Value of work done and materials supplied to Messrs. Carlisle and Co.	48	.....
22	Maintenance ...	5,358	.....
23	Dismantling buildings ...	11,467	.....
24	Materials at site. ...	748	.....
25	Materials (portable tramway rails) lost by Mr. Joubert at the Exhibition.	425	.....
26	Removing and storing Museum glass-cases ...	1,700	.....
27	Value of a cap of a column lent by the municipality lost at the Exhibition.	34	.....
28	Value of angle iron and foundation plates lent by the Fort William Division lost at the Exhibition.	229	.....
	Value realised from sale of materials, &c. ...	.....	45,385
	Total ...	3,55,667	1,55,737

CHAPTER V.

British Colonies represented at the Exhibition.

BRITISH GUIANA.

THE British Guiana Court was situated on the north-west side of the Indian annexe, having the Straits Settlements Court on the south and the Netherlands-India Court to the north of it. The character of the products of the colony was not such as to lend itself readily to decorative effect, but all that was possible had been done by the officer in charge to render the Court attractive. A prominent feature, and one that was of special interest to the poorer Indian visitors to the Exhibition, was a Gilt Obelisk placed in the centre of the main avenue. It represented in solid gold the sum of Rs. 41,49,685, the amount of money that had been taken out of Demerara by Indian emigrants to that colony.

Sugar and its auxiliaries, rum and molasses, are the staples of the colony, amounting to as much as 98 per cent. of the exports. Owing to the unfavourable season of the year for sugar-making when the exhibits were collected, the sugar industry was not so well represented at Calcutta as under other circumstances it might have been. The 34 samples exhibited comprised, however, most of the varieties in colour and quality of the celebrated Demerara crystals.

Rum was represented by 27 samples of white and coloured spirit. Demerara rum, which used to have a bad character in the English market, is coming into more request, and some of the best kinds command a price equal to that obtained by estates in Jamaica.

The timber and furniture woods of the colony can compete successfully with those from any other part of the world. Greenheart (which with mora is classed at Lloyds as one of the eight first-class woods for ship-building) abounds, and is largely exported to Liverpool and other seaports, where it is used for dock-gates, landing-stages, &c., being far more durable under water than English oak. The samples of woods exhibited were small in size, but large enough to show their hardness, fine grain, and beautiful colour. One

of them was of the wood of the souari-tree, which grows on a very large scale in some parts of British Guiana, and bears a nut excelling in size and excellence the well-known Brazil nuts. A sample of these nuts found its place amongst the other exhibits. The wallaba-tree, which grows in swampy places, supplies excellent shingles, which are universally used throughout the colony for roofing, and are exported in large quantities to Barbados and other West Indian islands.

The colony of British Guiana is situated in the north-eastern portion of South America, between the 1st and 9th parallels of north latitude and the 57th and 61st degrees of west longitude, and lies between Surinam, Venezuela, and Brazil. It is divided into three counties—*Demerara*, Essequibo, and Berbice, of which the first named is the most important, and in commercial circles gives its name to the whole country. Its boundaries, as claimed by England, embrace an area of 88,000 square miles, of which about 6,500 square miles consist of undulating open savannas and 3,000 square miles of grass-covered mountains, the remainder being clothed with dense forests.

Of this large area the small portion under cultivation is entirely confined to the rich alluvial lands on the coast and at the mouths of the rivers. The land under cultivation in 1882 amounted to about 145,000 acres, divided amongst a number of estates, of which 106 were sugar estates, 46 plantain estates, 90 cattle farms, 16 cocoa and coffee estates, and 10 cocoanut plantations. The land gradually rises from the sea coast, the country becoming more varied and mountainous until ranges of hills 6,000 to 7,000 feet in height are reached. The scenery among these mountains is grand, varied, and extremely beautiful. Peaks and ridges of every variety of form are grouped together, packed one behind the other, fading away in the distance; their sides clothed with grass and clusters of little dark-green groves, with here and there large frowning masses of rock far up their heights. Nestling between them are seen level grass-covered valleys, through which meander limpid streams belted with copses of wood.

The highest mountain in British Guiana is the range known as Roraima, the home of legend and myth, the fabled God-world of the Indian, the summit of which, in spite of several attempts to reach it, has never been scaled. One of the latest explorers, Mr. Boddam Whetham, writes:—"In

front of us, at the distance of a few miles, walled around with rocks as an inland island, stood Roraima. At the foot of the mountain the hilly ground lay in patches of yellow, stony savanna and dark strips of woodland rising in elevation as they approached its base. Then came a deep forest-clad ravine, whose farther side sloped steeply up to a distance of about 3,000 feet, and springing directly out of this sea of green rose a perpendicular wall of red rock fifteen hundred feet in height. Hardly a shrub broke the sheer descent of the shining cliff; scarcely a line of verdure marked where clinging grasses had gained a footing on its smooth face. The south-east corner was slightly rounded, and its tower-like appearance increased its general resemblance to a Titanic fortification a few miles in length rising from a forest glacis. The glancing rays of the sun struck the red sandstone layers, which shone like glass, and stood out in bold and bright relief above their green base. The level summit line was backed by forest trees, which to us appeared like bushes, and from their feet, like skeins of floss silk swaying in the wind, three waterfalls descended and were lost in the woods below. But towards the northern end of the mountain a magnificent cascade, whose lip seemed to be below the summit, sprang in a broad, silvery arch right down into the green depths, barely touching the rocky wall in its descent."

British Guiana is essentially a land of rivers and streams. The Essequibo, Massaruni, Cuyuni, Demerara, Coerentyne, and Berbice rivers, with numerous others, traverse the colony and discharge themselves into the Atlantic Ocean. Numerous falls and rapids occur on these rivers, but the greatest of all was discovered in 1870 by Mr. Charles B. Brown. The "Kaieteur," as it is called, is caused by the river Potaro precipitating itself over the edge of a table-land into a deep valley with a total fall of 822 feet: For the first 741 feet the water falls as a perpendicular column into a basin, from which it continues its downward course over a sloping cataract, 81 feet in height, and through interstices of great blocks of rock, to the river-bed below. The width of the fall varies, according to the season, from 240 to 370 feet.

The interior of British Guiana is inhabited by different races of aboriginal Indians.

"The Guiana Indians," says the Rev. W. Brett, "seldom exceed 5 feet 5 inches in height, and the greater number are much shorter. They are rather stout in proportion to their

stature, and it is rare to see an instance of deformity amongst them. Their skin is of a copper tint (a little darker than that of the natives of Southern Europe); their hair is straight and coarse, and continues jet black until an advanced period of life. The only dress which an Indian thinks necessary for every-day life is a strip of cotton bound tightly round the loins and secured by a cord tied round the waist; a simple string of beads is worn round the neck, and sometimes a collar made of the teeth of the peccary or other wild animals. They also make beautiful coronals or tiaras of the feathers of parrots, macaws, and other birds, set off by the brilliant scarlet breast of the toucan, and surmounted by the tail feathers, scarlet or purple, of the macaw. The women are as scantily attired as the men, but wear more ornaments. They have necklaces of beads of different lengths, to which silver coins, the teeth of the jaguar and other beasts, and sometimes shells, are attached. These necklaces, with a very small apron of beads worked in some handsome pattern, and called a *queya*, form the full dress of an Indian belle."

The principal tribes are the Arawaks, Acawoios, Caribes, Warans, Macusis, and Arecanas. These are all somewhat similar in appearance, but the Caribs are the tallest and most warlike, and the Warans the most degraded of all the Indians in Guiana. Their high cheek-bones, small, oblique eyes, olive complexion, and absence of hair, all seem to testify to a Mongolian descent. They display the usual savage ingenuity in the manufacture of canoes, houses, hammocks, weapons for war and the chase, and utensils for household use. One peculiarity is their knowledge and use of the Wourali poison both in war and the chase, the discovery and investigation of which occupied so many years in the life of the celebrated naturalist and traveller Waterton.

The civilised portion of the colony is confined to a narrow strip of land on the shores of the Atlantic and to the lower banks of the tidal rivers which flow into it. The capital, George Town, is situated on the right bank of the Demerara river, at the point where it enters the ocean. It is a handsome, well-planned city, with 50,000 inhabitants. The whole population of the colony, according to the census of 1881, was above 252,000 persons, of whom about 68,000 were East Indian emigrants. The value of the produce exported from British Guiana in 1882 amounted to £3,208,631, and that of the import of goods to £2,099,632.

For many years the estates in British Guiana have been mainly worked and maintained by a successful and well-regulated system of immigration. The East Indies, China, Africa, Madeira, and the West Indian islands, have all given their quota to swell the number of labourers on the sugar estates of the colony. By far the largest number, however, has been recruited in India. From 1835 to the present year (1883) 135,563 Indian immigrants have been introduced. Of these 17,553 have returned to their own country, bringing with them in money and jewelry Rs. 42,85,026. Large sums are likewise remitted every year by Indian labourers in British Guiana to their relatives and friends in India. Although so many take advantage of the free return passage to India, large numbers, and those not of the poorest class, prefer to remain in their adopted country, where they amass considerable wealth and become owners of shops, cattle-farms, provision-lands, and even race-horses and livery stables. Many are engaged in the retail milk trade or as pedlars, and some enlist in the West Indian regiments or the police force. There is nothing to prevent an industrious Indian immigrant from rising to a position of great wealth, influence, and power.

The climate of British Guiana is warm, but never very hot, the thermometer rarely rising above 90° or falling below 75°, and the heat is greatly tempered by the trade-winds, which for the greater part of the year blow steadily from the sea.

The principal products of the colony, which only want a sufficiency of labour to become one of the finest provinces in the British empire, are sugar, rum, molasses, timber, charcoal, and cocoanuts. Enormous sums of money, and very great energy, have been expended on the sugar estates, which are now unsurpassed for perfection of machinery and excellence of management. Coffee, formerly one of the principal products, fell into disfavour owing to difficulties following the abolition of slavery, but has again become an object of cultivation. The cocoa plant has been introduced from Trinidad, and cocoa will soon take its place as one of the colonial exports. The numerous abandoned coffee and cotton estates, which border on the Abari, Mahaicony, and Calye rivers, form great savannas, covered with herds of cattle, and the enormous forests which stretch for hundreds of miles towards the interior of South America afford a supply of timber unlimited in extent,

though at present its full utility is undeveloped owing to the difficulty and expense of carriage.

CEYLON.

The exhibits from Ceylon were confined mainly to raw products, the few manufactured articles being of small importance. It must be borne in mind, however, that Ceylon is specially an agricultural country. With a climate wonderfully favourable to plant life, it wears an aspect of fertility which is somewhat deceptive, though it has for well-nigh forty years been the home of the industry which has placed it in the front rank of crown colonies. The prevalence of a fatal pest has wrecked the fortunes of scores of planters, and now, where once not much short of a million hundredweights of the coffee berry were shipped, about a fourth of that quantity is exported. Though, however, the quantity of coffee produced has so much decreased, the exhibits seemed to show that the quality has not in any degree deteriorated.

By no means disheartened by the failure of their once favoured staple, the planters of Ceylon have turned their attention to tea, the cultivation of which has of late years made rapid progress. The tea hitherto shipped has been the produce of about six thousand acres of cultivated land, and it is estimated that there are other four thousand acres also under tea, not yet at a producing age. This area is quite insignificant as compared with the extent of land available, but the results obtained from it enable the financial outcome of the new industry to be estimated with some approach to accuracy. There are two estates in their ninth year of production at altitudes of from three to five thousand feet, and there are others at lower altitudes under five years of age. The data obtained from a dozen or more of these estates show that the annual yield per acre on high lands is 350lb to 400lb of tea per acre, whilst on new land at lower altitudes, where the heat and rainfall are greater, as much as 600lb and 700lb per acre are obtained. Most of these returns have been obtained from trees which have not yet arrived at maturity, the average age of which is only four years. The cost of cultivation of the low-country tea estates, and of the production of the leaf in all its stages until placed on boardship, may be set down at 30 cents. If to a capital outlay of Rs. 400 per acre (which is a very high figure for bringing an

estate into bearing, even including all the necessary permanent buildings and machinery), interest be added at 10 per cent., the cost of a yield of 600lb is at the rate of 6 cents per pound, and the total cost will amount to 36 cents, or about 5 annas. This is the cost of hand-made tea. If machinery of approved make be employed, a saving of at least 3 cents per pound may be effected, reducing the total cost on board-ship to 33 cents per pound. There is no lack of suitable tea land in Ceylon, within easy reach of road or river and at no great distance from the coast. The upset price is Rs. 10 per acre, exclusive of survey and other fees; but competition may probably double, or even treble, this rate before long. Careful calculations by experienced surveyors show that there are not less than 120,000 acres of crown jungle available in the Western Province, 80,000 acres in the Southern Province, and 30,000 acres in the Eastern Province, making a total of nearly a quarter of a million of acres suitable for tea, irrespective of coffee land within the higher mountain zone.

Ceylon exhibited sixteen growths of tea, commanding in the London market average prices from 1*s.* 3*d.* to 1*s.* 11$\frac{7}{8}$*d.* per pound. Liberian coffee, though successfully cultivated, is not grown to any great extent. Cacao and cardamoms, of which some good exhibits were shown, have proved successful ventures, and promise handsome returns.

Cinchona, first introduced into the island in 1861, has been extensively cultivated, though it was for some years neglected by the planters. High prices have been obtained for shipments to London, and exports of bark have reached nearly seven millions of pounds. The analyses of some of the best varieties have shown the existence of as much as 14·50 per cent. of *sulphate* of quinine. Recently, however, canker has attacked large numbers of the young trees in situations where the soil has been stiff and damp, and the price obtainable in the home market has declined very materially.

Cinnamon of excellent quality has been produced in the island for several centuries. Once a most valuable monopoly in the hands of the Dutch Government, the trade in this spice has now dwindled to humble proportions. Cinnamon, which forty years ago sold for 8*s.* the pound, now sells for 1*s.* 6*d.*, and the cultivation of it barely pays the proprietors.

The cocoanut-tree is found growing down to the water's edge for nearly two hundred miles along the western and

southern coasts of the island. Whether this palm is indigenous to Ceylon, and if not, when it was introduced, are questions which have not been solved. There are legends concerning it, which, however, rest upon no authority. The palm groves of Ceylon extend inland for some miles, and form the nucleus of a large and thriving industry, the sole support of many thousands of its inhabitants. In the manufacture of the oil from the dried kernel of the nut by steam power British capital and engineering skill combined have been successful, and in the suburbs of Colombo there are several steam-mills of importance where large quantities of the coir fibre, yarn and matting, and transparent oil, are prepared. Specimens of all these products were exhibited in the Court. Cocoanut oil is also extracted in a very rude fashion by native mills worked by bullocks, but the article is inferior in quality to the mill oil.

During native rule in Ceylon the State possessed a monopoly of the right of digging for gems, which was maintained until the British obtained possession of the gem districts, situated in Morawak-korale, Nuwara Eliya, Rakwane, and Ratnapura. The two latter districts are famed for sapphires and cat's-eyes, the former being of very fine quality and of a velvety blue. A small collection of rough Ceylon gems was shown, comprising sapphires, cat's-eyes, rubies, tourmalines, spinels, corringes, alexandrites, cinnamon stones, jargoons, aquamarines, chrytolices, chrystals, star-stones, topazes, amethysts, chrysoberyls, opals, and other stones.

The ancient artwork of Ceylon was represented by a series of large painted tiles representing scenes from the 'Great Perahera;' by eleven series of large painted tiles illustrating the 'Dhamma Sonda Vatthu;' by five series of small painted tiles bearing the 'Nawa Nari Kunjari' designs; by large and small plates decorated with the 'Hansa Putuwa,' 'Gaja Sinha,' and other Buddhist patterns; by large and small *chattis* and bowls, with Buddhist and floral patterns and miscellaneous designs; and by silver and carved ivory boxes and bangles possessing considerable merit.

Buried under the forest growth of many centuries in various parts of Ceylon are found the remains of ancient architecture, unsurpassed for beauty or extent by any ruins in the East. These indicate the sites of ancient seats of Government, which were shifted as the tide of conquest from the north, overwhelming the ruling power of the

day, compelled it to migrate to more secure localities. The most ancient ruins, and those, perhaps, of the highest architectural excellence, exist at Anuradhapura. This ancient and extensive capital of the sovereigns of Ceylon was founded by Anuradha about 500 B.C., and is described by Ptolemy under the name of Anurogrammum. Chief among its magnificent remains are the ruins of lofty dagabas, some of which for size and beauty are unrivalled in India. Very fine photographs of the chief Cingalese ruins were shown in the Ceylon Court.

MAURITIUS.

The exhibits from Mauritius were placed in the court-yard of the Museum, next to those from Ceylon. A very large collection was shown under the sections of raw products and manufactures not included in other sections and of food-products. Five certificates of gold medals were awarded to exhibitors for vanilla pods, and a certificate of a gold medal to Mr. DeCharmor and to Messrs. Guibert de la Fay and Co. for cloves and white sugar respectively. A good collection of fibres and woods was sent from the Botanical Gardens at Pamplemousses. Among the exhibitors in other sections Mr. A. Descubes obtained a silver medal for a map of the island of Mauritius, and Mr. E. Lienard a bronze medal for ostrich feathers.

STRAITS SETTLEMENTS.

The exhibits sent from the Straits Settlements occupied a portion of the Indian annexe. As was to be expected, they were remarkable rather for utility than artistic beauty, consisting for the most part of raw products, primary manufactures, and food-stuffs. Some handsome silks and clothing were, however, exhibited by the Government of the Straits Settlements, by his Highness the Mahárája of Johor, by Mr. Swettenham, the Commissioner to the Exhibition, and by the Hon'ble Mr. W. E. Maxwell. The articles manufactured from indigenous cane, such as matting, chairs, and tables, were much admired for their strength and elegance. A large number of specimens of tin, both raw and manufactured, were exhibited, and a representative set of models of native boats was contributed by the Government. The chief exports, comprising gutta-percha,

gambier, pepper, india-rubber, hides, canes, rice, sago, tapioca, spices, tin, dye-stuffs, tea, coffee, tobacco, gums, woods, and preserved fruits, were well represented, and, as will be seen on a reference to the award list, received recognition at the hands of the juries.

NEW SOUTH WALES.

The New South Wales Court occupied the portion of the temporary building between the Victorian and Jewelry Courts. With the exception of the photographs and a few paintings, the articles exhibited were not such as lent themselves to decorative effect; but the display of material wealth placed before the public fully warranted the prominent place taken by the colony at the Exhibition.

In the fine arts section Mr. W. C. Piguenit, of Hunter's Hill, showed some excellent landscapes in oil colours; while the Colonial Architect, the Commissioners for New South Wales, Messrs. Caney & Co. of Mount Victoria, and Messrs. Emil Rusfeldt & Co. of Sydney, exhibited some interesting photographs. The Public Works Department exhibited photographs of New Castle, Wollongong, and other places, and Mr. Roe, the Under-Secretary in that Department, showed water-colour sketches of the same views taken in 1849 and 1850. Specimens of photo-lithography and lithography exhibited by the Surveyor-General and the Colonial Architect obtained silver medals. The panoramic view of Sydney exhibited by the Exhibition Commissioners was an excellent piece of work, and attracted much attention. A silver medal was awarded to a set of chromo-lithographs of wild flowers exhibited by Messrs. Turner and Henderson of Sydney.

Some fine specimens of letter-press printing and binding were shown by Mr. T. Richards, the Government Printer. The Surveyor-General, the Government Examiner of Coal-fields, the Minister for Mines, the Minister for Public Instruction, and the Postmaster-General, exhibited some carefully-prepared plans and designs illustrative of the work of their respective departments, and copies of reports and other publications issued under their orders.

Messrs. W. & H. Cook of Sydney sent some good cat-gut window-cords, and Mr. Charles Williams of Sydney some specimens of marbling and graining woods, both of which obtained silver medals. Mr. H. W. Hodgson obtained a

bronze medal for self-acting window-blinds. With these exceptions the exhibits of furniture call for no special remark. Among the other exhibitors of household appliances and ornaments, the Penal Department exhibited rugs, mats, and matting, to which a silver medal was awarded. Messrs. Barrett and Company showed patent stoppered aërated water bottles, and Mr. Evan Jones platedware and mounted emu eggs, of which the latter were much admired. All of these obtained bronze medals.

Articles for personal wear or use were somewhat poorly represented, though the tweeds exhibited by Messrs. J. Vicars and Co. looked serviceable, and were awarded a silver medal.

As might be expected, the most important part of the exhibits from New South Wales were classed under the head of raw products and manufactures from raw products. A large number of specimens of wool was shown, the excellent quality of which was indicated by the verdict of the jury, who granted no less than six certificates of gold medal and nine silver medals, as well as certificates of lower classes, to New South Wales for wool. The Commissioners showed a very complete collection of the timbers of the colony, to which a certificate of a gold medal was awarded. Some good serviceable saddlery was exhibited, the best being that by Messrs. James Forsyth and Sons. Tobacco leaf grown in the colony by Mr. William Bridle of Tumut was awarded a bronze medal.

The hydra-headed rail sent by Messrs. George Cowdery and Edwin R. Thomas, the brass castings and steam fittings by Mr. George Hardie, and the railway materials by Messrs. Hudson Brothers, Limited, received bronze medals; while Icke's phosphor bronze sent by the Railway Department, Mr. John Paton's permanent way for tramways, and Mr. S. Zokner's galvanised ironware, were worthy of notice.

The display of wines from the colony was very creditable. These were exhibited in the form of a pyramidal trophy set up in the centre of the Court, and received six certificates of gold medals and ten of silver medals, with other certificates of lower classes. Lists of the successful exhibitors will be found in the award list. In provisions of other kinds a good display was made, nine certificates of gold medals being obtained.

Mr. R. A. Ritchie of Parramatta, Mr. William Ritchie of Grandville, and Mr. John Wright of Sydney, showed

some useful ploughs and harrows, and Messrs. D. and R. Bradford sent a cast iron gate-post and railings, which were awarded a third-class certificate.

An interesting ethnological collection from Australia and the surrounding islands exhibited by Mr. Allaster Cox, and the collection of stuffed animals shown by the Commissioners, attracted considerable attention.

The bulk of the mineral, natural, historical, and scientific exhibits from New South Wales were obtained by the Royal Commission appointed by the Government, and have been presented to the India Museum and other educational institutions in India, where they will remain as a permanent historical record of the presence of the colony at the Calcutta Exhibition.

In connection with the display of exhibits from New South Wales the following facts with regard to the development of the colony, compiled mainly from the official account published for the Exhibition under the orders of the Colonial Government, will be read with interest.

Captain Cook landed in 1770 on the eastern shore of New South Wales colony, and in 1788 the first British settlement was founded. From this small beginning a population now estimated at upwards of 900,000 has sprung. Formerly the whole of the eastern side of the continent belonged to New South Wales. In 1851 Victoria, with a population of 68,335, was separated, and in 1859 Queensland, with a population of 25,000, was also made a separate colony. The climate, which resembles that of Southern Europe, is very healthy, with a clear atmosphere and a sky almost cloudless for the greater part of the year. In vital statistics the colony compares favourably with most parts of the world, and instances of great longevity are numerous.

That New South Wales has progressed in a wonderful manner is proved by her present extensive trade and rapidly increasing population. With a public debt of £18,000,000, she has in the Railway Department an asset which has been proved capable of realising at any moment in the London market £25,000,000 sterling. The net income on railways alone is quite sufficient to pay the annual charge for interest on the public liabilities of the colony. While this single asset is of such enormous value, the whole country is covered with every description of public works calculated to permanently increase the value of the public estate.

The progress of the colony far exceeds the most sanguine expectations of those who have long been acquainted with her natural advantages. To quote from the Treasury Budget report, it is stated that in 1881 2,254 vessels, exclusive of the coasting trade, entered the port of Sydney having an aggregate burthen of about 1,456,239 tons. This amount far exceeded the tonnage entering the port of London fifty years ago. To this traffic must be added that of the port of Newcastle, with an amount of tonnage almost equal to that of Sydney.

The total annual revenue of all the seven Australian colonies up to 1881 was £22,064,108, of which New South Wales furnished one-third.

In addition to the security offered by the railways, there is owing to the Government from conditional purchasers of land a balance of £12,000,000, for the payment of which every new work undertaken is an additional guarantee.

The imports for 1881 amounted to £17,409,326, and the exports to £16,049,503, giving an aggregate value for the whole foreign trade of £33,458,829, with a balance in favour of imports of £1,359,823. The public revenue in 1881 was £6,714,327. The tariff which is established for purposes of revenue is one of the simplest in Australasia, free trade being the policy of the colony.

The export of wool for 1881 was 139,601,506lb, and the total value of all pastoral exports for that year amounted to £8,816,089, or 2½ millions increase upon the returns of 1871.

The mineral wealth of the colony is enormous. The value of the gold raised up to 1881 was £55,077,608. The approximate auriferous area is 70,000 square miles. Of coal the colony possesses an almost inexhaustible supply, easy of access, and of excellent quality. During the year preceding the Exhibition, although the trade was comparatively new, 75,226 tons of Australian coal were delivered at Calcutta. The area of carboniferous strata is estimated at 23,950 square miles. From Shoal Haven to Coal Cliff on the coast, a distance of 45 miles, the coal crops out in seams of great thickness, and is worked at various points.

The progress of New South Wales in manufacturing industries is very marked. With the best labour-saving appliances 2,819 establishments, employing 29,849 hands, are employed on raw materials, the productions of the pastoral interest, food, plastic trades, brass, lead, and ironworks,

and miscellaneous works. There are 159 steam-mills in operation, fairly distributed throughout the colony, all of which find constant occupation. The meat industry is making gigantic strides, having acquired a great reputation abroad. Some of the large steam-ships trading to Australian ports are provided with refrigerating chambers, in which are stored large quantities of fresh meat frozen in carcass for European markets. This young trade has now an export valued at upwards of £300,000 annually. By extending the trade to all ports eastward through the Torres Straits by the establishment of direct steam communication, this export would be at once greatly increased.

SOUTH AUSTRALIA.

South Australia, originally called Flinders' Land from the name of its discoverer, Captain Flinders, occupies the centre of the great island continent from the Southern to the Indian Ocean. Bounded on the west by Western Australia, and on the east by Victoria, New South Wales, and Queensland, it is in close territorial communication with every other colony of the group. South Australia, which was discovered in 1801 but not colonised till 30 years later, is an agricultural country, and has been peopled greatly through free immigration. The colony owes much of its prosperity to the discovery of copper by Mr. W. W. Hughes, a large sheep-owner, and about the years 1860-61 companies were formed to work many of the mines. It is estimated that copper to the value of over £16,000,000 has been extracted from Burra Burra, Wallaroo, and Moonta mines. In 1855 the first railway was opened, and there are now several lines in good working order, while tramways run to every portion of Adelaide.

The South Australian Court was entered from the music-room through the vestibule, where the attention of visitors was much attracted to the photographs of horses, cattle and sheep from the estates of Mr. J. H. Angus and Mr. G. C. Hawker. On the right and left of the entrance were placed stuffed figures of an emu and a kangaroo, whilst a pile of Burra Burra copper was erected on a pedestal facing the centre pillar. In a direct line with these were many hundred samples of quartz from the northern territory, in which the gold was clearly visible. At the other end of the Court separating South Australia from Tasmania stood a pile of Walleroo copper cakes and ingots. It had been intended to place small shot and

finger-pieces at the base of this trophy, but the loss arising from samples taken was so great that these small pieces had to be put under glass. The trophies of copper exhibited by the Wallaroo and English and Australian Copper Companies stood like monuments in the Court, though their effect was somewhat weakened by the low roof of the buildings.

The vine produce of the country was exhibited in a very large show-case, containing 580 sample bottles, no less than ninety-one different sorts of wine being shown by the twelve principal exhibitors.

Nearly all kinds of European fruits are produced in the colony. Jam-making is therefore an important industry. New and improved methods of boiling the jams are adopted. Steam-engines are used for paring and slicing apples, lemons, oranges, &c., and by a new system of evaporation fruits are dried which are said to retain their flavour and freshness for years. Specimens of South Australian fruit modelled in wax from the exhibits shown at a recent show held in Adelaide were exhibited in a case at the entrance to the Court. The Australian Fruit and Vegetable Preserving Company had a large show of samples of preserved fruits, jams and jellies, whilst Mr. Thomas Hardy exhibited raisins, dried currants, and almonds. Of wheat, many fine samples were laid out. South Australian wheat fetches a high price in the market, owing principally, it is said, to the method of reaping employed.

Ploughing is done principally by the stump-jumping plough, invented by Mr. J. W. Stott, of Alma, which is most suitable for scrub or simple lands. The shear of the plough rising out of the ground and falling into the earth immediately after passing over obstructions enables virgin soils to be at once planted with seed, and when ripe the stripper, as it is called, is passed through the field, stripping off the ears of the wheat. The wheat never comes into contact with the earth, and is thus placed upon the market thoroughly clean and free from impurities. One of the strippers by Messrs. J. G. Ramsay & Co., Mount Barker, and another by Messrs. Mellor Brothers, were shown on the maidan, as were three-furrow stump-jumping ploughs by Mr. J. W. Stott and by Messrs. Mellor Brothers.

Adelaide flour was shown by the Adelaide Milling and Mercantile Company, and by Messrs. Magary & Co. A very large export trade in this commodity is carried on with China, Hongkong, and the neighbouring islands.

The olive oil industry is beginning to assume considerable proportions. Several thousand gallons were made in the year 1883, and the best proof of the quality and purity of the oil is that most of it is used in Australia, and commands a higher price than the imported article. The samples of olive oil shown by Mr. Samuel Davenport, to whom a gold medal was awarded, and who is the father of the industry in South Australia, were clear and pure, and showed to advantage in the glass vase on the top of the show-case containing other samples from Mr. G. L. Barnard. In a separate show-case, under glass covers, were samples of olive products in the shape of crushed olives, machinery oil, &c., from Messrs. Anderson and Robertson of Adelaide.

Biscuits made in South Australia were exhibited by Messrs. A. Murray & Sons and by the Aërated Bread Company of Adelaide.

Preserved meats by Conrad, and Pulliene's preserved potatoes, illustrated important colonial industries. The Government of India, having in view the advantages to the troops of fresh food on a march, issued orders to the Commissariat Department to examine and report on these meats and on preserved, or rather dried, potatoes.

Ostrich farming is an established industry. Mr. Malcolm, the Managing Director of the Company, went over to the Cape of Good Hope at the time of the late panic and failures in Capetown, and purchased a ship-load of ostriches. Some feathers, shown in a triangle under the glass of a show-case, had been taken from the first birds reared in South Australia. Sugar from sugar-canes, rhea fibre, pine fibre, flax, indigo, rice, *dhal*, maize, and pea-nuts, were shown side by side with products deemed essentially English, and illustrated the wonderful adaptability of the colonial climate.

Some fine specimens of *ghi* were exhibited by the South Australian Government, and obtained a gold medal. Through Lieutenant-Colonel Cologan, Superintendent of Juries, a supply was sent to the 17th Regiment, Native Infantry, Fort William, and was reported on very highly by the men to whom it was issued as a ration. Several bags of flour were tested in the same way, and the verdict of the native soldiers was that the flour was too fine for bread-making, or rather for the wheaten cakes eaten by them, but excellent in quality for sweetmeat-making. The regiment reported highly of both the wheat and *ghi*.

Several fine samples of wool were shown, and those of Messrs. J. H. Angus, Willaim Crozier, and the Hon'ble G. C. Hawker, obtained awards of gold medals.

The indigenous woods of the country were fairly well represented.

TASMANIA.

The Island of Tasmania is situated 120 miles south of the continent of Australia, with the capitals of which powerful steamers keep up regular communication. The passage from Melbourne to Launceston occupies from 18 to 20 hours. The area of the island (inclusive of islands and lakes) is 16,778,000 acres—about 26,215 square miles. The statistics of 1882 showed that the population was 122,479. The revenue in the same year from all sources was £551,213, and the expenditure £502,771, leaving a considerable surplus. The public debt, which has been incurred for the construction of works of permanent utility and improvement, amounted to £2,050,600. The import trade represented a value of £1,670,872; the exports amounted to £1,587,399. Mining is largely prosecuted in Tasmania, gold and tin being the chief minerals worked. The export of these minerals in 1882 was valued at £522,912. The climate of Tasmania is very healthy. Tables extending over a period of thirty-five years show the variation of temperature between the hottest month of summer and the coldest month of winter to be little more than 17 degrees. The death-rate is only 14·77 per mille; while of the total deaths, nearly 58 per cent. are those of infants under one year of age and of comparatively aged people.

Manufacturing industry is by no means dormant in Tasmania, and the official returns for 1881 show that there were 3,437 trades manufactories and works in operation, of the capabilities of which the exhibits in the Tasmanian Court afforded proof.

In the description of these, the mineral exhibits take the first place. Conspicuous among them was a very interesting "index cabinet" near the entrance to the Court, completely illustrative of the mineralogy of the colony. This cabinet contained 432 distinct specimens of mineral ores from the different mining districts, including dressed tin tres, stream and rock tin ores, iron ores, limestone, coals, clays, shales, lead and copper ore, silver and bismuth, manganese, and a very fine display of gold, both native

and smelted. Near the mineral cabinet were placed large cases containing specimens of ores of various minerals in bulk from the leading mines of the colony. These and the cabinet are described in detail in the catalogue. On a stand by itself there was a large nugget of pure tin ore (oxide of tin) weighing 6 cwt., the assay value of which was 65 per cent. of pure metal. This lump of ore was found in the alluvial wash at the brown face of Mount Bischoff mine, and is believed to be the largest alluvial nugget of tin ore ever found in the world. Beside it was a very large and curious petrified tree-root found at Mount Morrison, near Ross, Tasmania. The main feature of the Court, however, was the great tin trophy, which stood in the centre and was a very attractive exhibit. It was in the form of a colossal column of minerals and pure smelted tin rising from floor to ceiling to a height of about thirty feet. The minerals were lent for the purpose by the Mount Bischoff Tin Mining Company, Launceston, the tin ingots being supplied by the Government of Tasmania. The base of the trophy was 9 feet in diameter, and was surrounded by a circlet of small tin ingots. The base represented a rockery 6 feet high, and was composed of the various rocks and ores found at the Mount Bischoff mine. It gave a good idea of the geology of the district. The lower portion consisted of the more primitive rocks, granites, slate and euritic porphyry, and there were also some curious stones showing the junction of the granite and slate country in the geological formation. Some of the specimens of variegated porphyry were also curious. Above these rocks came specimens of chlorite, or prismatic talc, a magnesian mineral occurring largely in the Mount Bischoff district, the green variety being the most common. Next came samples of tin ore, of different degrees of richness, varying from about 12 to about 60 per cent. by assay. Some of these were lumps of porphyritic granite, thickly studded with black oxide of tin, and others dense masses of almost pure tin ore. There were also specimens of lead ore found on the company's property closely associated with the tin, and some pretty specimens of purple and pink fluor spar—another mineral found in the district. Above the rockery was a circle of glass cases, containing specimens of stanniferous gravels from various parts of the mine. There were 16 cases, each containing reddish and grey-looking powders, all very rich in tin, representing the material chiefly treated in the

company's dressing sheds, where elaborate machinery is at work to extract the ores from the gravel. The ores are forwarded to Launceston, where they are smelted in specially constructed furnaces with coal from Newcastle, New South Wales, and where the pure metal (tin) is produced. This formed the main portion of the trophy. Above the glass cases the tin ingots were built up in columnar form, the first section consisting of ingots of 80lb and 40lb weight. These were built in a sort of open trellis, with a backing of red, and had a very pretty effect. Towards its summit the size of the column was gradually reduced by the use of smaller ingots, until it rose in semi-spiral form to the roof, where it culminated in a fantastic ornament composed of tin drips from the furnaces. The column was also ornamented with tin drips in the form of stalactites, which were most effective. At a height of about 20 feet a couple of banners sprang from either side, one bearing a shield with the words "Mount Bischoff," the other a shield and the badge of the colony, a lion *passant* within a green wreath. The trophy was designed by Major Just, the Tasmanian Commissioner, and was erected under his direction by Mr. John Rumgard, the foreman of the Court. It formed a noble monument of the mineral wealth of the colony.

Tasmania is rich in sandstones suitable for building purposes, and a number of large cubes were exhibited. These were of very fine quality. Many of the public buildings, banks, and hotels in Melbourne and other colonies are constructed of this Tasmanian stone, while the chief edifices in the city of Hobart are built of it. Five hundred and ninety-one tons were exported in 1881, the value of which was set down at £1,149.

Some very handsome specimens of the ornamental woods of the colony were exhibited on a stand. The Mayor of Hobart, Mr. W. Belbin, M.H.A., sent a neat board, little larger than an ordinary chess-board, in which highly-polished specimens of 18 different varieties of wood were shown with good effect, accompanied by an explanatory diagram which enabled any one to understand the exhibit at a glance. In connection with the timber exhibits, interesting collections of the seeds of indigenous plants and shrubs were shown by different exhibitors, the chief collection being contributed by Mr. Francis Abbot, Jr., the Superintendent of the Royal Society's Gardens, Hobart.

Among indigenous products a large specimen of a curious fungus deserves mention. This fungus (*Mylitta Australis*), which is known as "native bread," was formerly largely used as food by the now extinct natives of the island. It resembles a monster potato, but when cut has the appearance of cold sago pudding. It is somewhat curious that since the natives disappeared this native bread is very rarely found.

The only ethnological exhibits in the Court consisted of three busts representing Woureddy, a chief of the Bruni Island tribe; Truccanini, the last female, who died only a few years since; and William Lanny, or "King Billy," who died about the year 1867, and who was the last male aboriginal of the colony.

The art works were shown near the entrance of the Court, and consisted of 28 exhibits. The most striking picture in the Court was the large view of the city of Hobart by Captain Haughton Forrest, exhibited by Mr. J. C. Hadley. This picture represented that portion of the city immediately facing the harbour, with the stately Mount Wellington in the background, towering to a height of 4,166 feet. Another oil-painting represented Ben Lomond, one of the eastern range of mountains 5,010 feet high. This painting was by Miss Evans, who also exhibited a very beautiful table-top, with groups of flowers, berries and insects, painted in oils. Mrs. Meredith, a well-known Tasmanian authoress, exhibited copies of eight volumes written and published by her, some of which were illustrated from drawings made by herself. Some photographic portraits in a style known as crystallograph, by Mr. J. Bishop Osborne, of Murray-street, Hobart, were greatly admired, and attracted much attention. Messrs. Russ and Barnett, of Macquarie Street, Hobart, exhibited a few excellent specimens of portrait photography. There were numerous specimens of flower painting on wood, chiefly in the form of table-tops and whatnots, many of which were of considerable merit. The Honorable the Postmaster-General sent a frame showing all the postage and revenue stamps ever issued in Tasmania,—an interesting record, which was presented to the postal authorities in Calcutta at the close of the Exhibition. Some musical compositions by Herr J. A. Schott, band-master of the Southern Tasmanian Volunteer Artillery, which were exhibited, were played at some of the Exhibition concerts. The Survey Department exhibited some good maps of the

island, which were presented in Calcutta to the authorities. Mr. Joseph Davis, manager of the Tasmanian Gold Mining Company, showed plans of the underground workings of the Company's mine, which, within the last five years, has produced 4 tons 793lb weight of pure gold, and paid dividends to the amount of £277,500. The Press of Tasmania was represented in the same section by files of the *Launceston Examiner* (daily), *Tasmanian* (weekly), *Daily Telegraph*, and *Devon Herald*, newspapers. There were a number of exhibits from children in some of the public schools, which were very interesting, as proving that in Tasmania the all-important matter of education is not neglected. Some really good basketware made of willows was exhibited, the productions of Messrs. Bridges Brothers, of Elizabeth-street, Hobart, and Mr. James Ballard, of George-street, Launceston, being especially noteworthy. A collection of pottery and earthenware shown by Mr. John Campbell, of the Sandhill, Launceston, was very good. Mr. Lloyd, of Elizabeth-street, Hobart, showed a Duchess dressing-table and chest-of-drawers of the bird's-eye variety of the beautiful Huon pine. Mr. George Paton, of Brisbane-street, Launceston, had a good exhibit of ceiling ornaments executed in plaster of Paris. These ornaments are used for ventilating ceilings and allowing the escape of the warm air from the rooms. Some very beautiful specimens of fretwork carving were exhibited. The wood used was the Huon pine. In section E, fabrics, apparel, &c., Tasmania was well represented, a great amount of artistic skill and ability being displayed. A good exhibit of leather was contributed by Mr. Henry Vautin, of Elizabeth-street, Hobart. This consisted of sides of sole and kip-leather, sheep skins of different colours, goat skins or Levant leather, calf and kid skins, and kangaroo skins. The Tasmanian kangaroo skins are most prized for leather and fur, the climate being peculiarly favourable to their development. Kangaroo leather is largely used for boots and shoes, being preferred to French calf. The barks of Tasmania have long been celebrated for their tanning properties, and most of the leather exhibited is tanned with the back of the black wattle (*Acacia mollissima*). Messrs. Grubb Brothers, of the Wharf, Hobart, exhibited an interesting case of this bark showing the three forms in which it is prepared for export, viz. chopped, ground, and fine. The Tasmanian bark trade is important, the export in 1882 being valued at £56,910. A very large and beautiful show-case of

Tasmanian perfumes was exhibited by Mr. Andrew Paton Miller, chemist, of Liverpool and Murray-streets, Hobart. Messrs. Hatton and Laws, of Charles-street, Launceston, had also a small exhibit of perfumes. One variety is named "Corra Lynn," after a beautiful dell in the vicinity of Launceston. Messrs. J. B. Mather and Sons, of Liverpool-street, Hobart, were the only exhibitors of hats and caps. A notable exhibit was that of Messrs. James Ah Catt & Co., of Launceston, who show Tasmanian-grown tobacco leaf, and the tobacco and cigars manufactured from it. Mr. Peter Bulman, of the Waverly Woollen Mills, near Launceston, had a splendid display of samples of tweeds and cloths manufactured from Tasmanian wool. This mill won the bonus of £1,000 offered some years since by the Government of Tasmania for the first manufacture of woollen cloths in the colony. Since then it has been kept fully employed in supplying colonial demands. The proprietor was desirous of forwarding bulk samples to the Exhibition, but found it impossible to get them ready in the time allowed. Interesting specimens of the mutton-bird and seal oils from the islands in Bass's Straits were shown by Messrs. James Walden and Robert Gardiner, of Launceston. The islands are inhabited by half-castes, the descendants of aboriginal women and sealers who carried on their calling at the islands many years since. They live by mutton-birding and collecting shells. The mutton-bird or sooty petrel, when full grown, equals in size an average sea-gull. Its native name is the yola bird. It is of a dusky or greyish black, and its habits are most singular and interesting. For some months in each year there is not a mutton-bird to be seen in the straits; but in September they gather in thousands, and make their nests in holes in the sand or under the shelter of the barilla bushes. The young birds only are taken for the purpose of "oiling;" they are killed by breaking the neck, and when about a couple of hundred birds have been collected the oil is extracted from them by squeezing firmly the body of the bird and passing the hand gradually along towards its neck, until the oil exudes from the beak. About 100 birds are required to produce one gallon of oil, which is worth about three shillings and six pence. The oil is much used as a lubricator, and also in the manufacture of leather. It is also a splendid remedy for horses' broken knees, collar and saddle galls, restoring the hair very quickly. Yola fat or tallow, also obtained from

these birds, is used in the manufacture of hemp and jute goods, bags, woolpacks, &c., and as an anti-friction grease. It is worth about one shilling and nine pence per pound. The bodies of the birds are salted in large quantities and sent to market, being esteemed by many as an article of food. The Tasmanian shells and shell necklaces exhibited in the Court attracted much attention. They came also from the islands in Bass's Straits. The larger pendants and necklaces were of the pearly *trigonia*, while the blue and green necklaces were of different species of the *elenchus* and the *margarita tasmanica*. Tasmania made a good display of food-products. Mr. R. Cadman, of Londavro, showed some fine samples of cheeses. There were four glass cases of hams and bacon from Messrs. John Joyce and George Peart, Launceston, Johnstone Sharpe, Hobart, and the River Don Trading Company. Jams of all kinds were represented by Messrs. W. H. Burgess & Co., H. and T. Peak, R. D. Russell & Co., and Mrs. Burt, all of Hobart. There was a fine display of cordials and mineral waters by Messrs. Weaver and Co. and Kelly and Gordon, Hobart. Mr. C. G. Eady, of Liverpool-street, Hobart, had a trophy of dandelion ale, said to be a very palatable and non-intoxicating beverage. A large trophy of preserved rabbits, from the Tasmanian Preserving and Trading Company, looked well. The exhibits of wheat, grain, and flour were not so good as had been expected. Good samples of oatmeal and split peas were shown by Messrs. David Ritchie, Launceston, and Robert Scott, of the river Forth. There were several good exhibits of apple cider.

VICTORIA.

Victoria occupies the south-eastern portion of the Australian continent, of which it is the southernmost colony. It lies between the 34th and 39th parallels of south latitude and the 141st and 150th meridians of east longitude. Its extreme length from east to west is about 420 miles, its greatest breadth about 250 miles, and its extent of coast-line nearly 600 geographical miles. It was discovered by Captain Cook in his Majesty's ship *Endeavour* in 1770, and was colonised eight years later. At first little was done towards the exploration of the southern shores of Australia, but in 1835 the site of Melbourne was fixed. The colony was separated from New South Wales, of which it originally formed a part, on the 1st of July 1851.

Victoria, although the smallest, is the most important and most densely populated of the five colonies into which the continent is divided. It owes its rapid progress to its great mineral wealth. In gold it is particularly rich, the quantity found up to the 27th of July 1883 being estimated at 51,844,235 ounces. Tin, iron, and copper, are found in considerable quantities, but coal is not abundant, and for this mineral Victoria looks chiefly to New South Wales. In timber Victoria is very rich, and the collection of woods exhibited at the Exhibition was both valuable and varied, including many species of *Eucalyptus*, some of which yield timber unsurpassed in size and quality by any in the world.

The Victorian Court, which was situated in the eastern portion of the temporary buildings, was the largest of the Australian Courts. It was tastefully decorated, and formed one of the most attractive places on that side of the Exhibition. Groups of beautiful Victorian tree-ferns brought from their native forests were placed at the entrance, and at the extreme end, at a distance of three hundred feet, a grotto, or "fern gully" as it is called in Australia, was arranged with more than one hundred large and small ferns, of light, refreshing tints, naturally grouped, and forming a foreground to a painting representing an Australian bush scene.

The centre of the Victorian Court was occupied by an immense double arch, carrying over 2,000 bottles, all brightly labelled and capsuled, representing the wine industry of the colony. Nearly 300 samples of Victorian wines, grown in different districts, were contributed with a view to exhibit the prominent position held by vine-growing amongst the industries of Victoria.

The Department of Mines and Water-supply exhibited plans and sections of underground workings of quartz-mines at Sandhurst and Stawell. These were of interest in connection with the gold-mining industry springing up in India, inasmuch as the actual methods of following or finding quartz reefs were plainly shown in them. They also represented the latest methods of working, and were calculated to give a very complete idea of quartz-mining in Victoria. The Hon. J. F. Levien, the Minister, and Major T. Couchman, the Secretary of this department, sent a collection of facsimiles of large nuggets of gold found in Victoria. This exhibit consisted of a small collection of plaster-cases

of some of the nuggets found in the alluvial mines, the largest of which sold for £10,500 and the smallest for £600. They were interesting as illustrating the possibilities which lay within the grasp of the pioneers of gold-mining in the colony. A gilded arch, erected at the southern or tank entrance of the Court, properly claims notice with the casts of nuggets. This arch represented the total amount of gold of which the discovery in the colony had come officially to notice. Its value was supposed to be £300,000,000.

The Industrial and Technological Museum, under the control of the Trustees of the Public Library, Museums, and National Gallery, Victoria (Mr. J. C. Newbery, C.M.G., B.C., Superintendent), sent a collection of Victorian minerals and ores. This collection illustrated the modern phase of mining as compared with the ancient methods in use over thirty years ago. But little alluvial mining is now done in Victoria, whilst an enormous amount of capital is invested in quartz-mining. The specimens comprised in the collection showed the richness of the colony in minerals; iron, arsenical pyrites, antimony, limestone, lignite, copper, tin, and other minerals being represented. The School of Mines, Ballarat (Mr. F. M. Krausé, Curator) also contributed a collection of minerals and ores of great value and interest.

The Department of Railways exhibited maps of the railways of Victoria, showing how the lines in that colony have been laid out, and illustrating a wonderful amount of progress in that direction, considering the extreme youth of the colony. Mr. Labertouch, the Secretary in the Railway Department, also exhibited a raised map of the colony, on which the lines of railway and all stations were marked.

Of the private exhibits the most conspicuous was that of Messrs. Alcock and Company, 132, Russell-street, Melbourne, who contributed a billiard-table manufactured of Queensland tulip wood and a set of billiard-room furniture and hall and garden-seats made from Victorian timber, as supplied to the racing and cricket clubs, public gardens, and reserves in and around Melbourne.

The indigenous timbers were displayed both in trophy form and in the shape of various implements and books. The trophy contained over twenty varieties of Eucalyptus timbers, and a number of Acacias, Banksias, Casuarinæ, Melaleucæ, Leptosperms, Pittosperms, and other Victorian woods. Many of these woods were close grained, and

appeared to be well adapted for utilitarian purposes The trophy represented the timbers in the rough and the finished articles manufactured from them. A novel but interesting mode of exhibition was adopted by the Government Botanist, Baron von Mueller, by whom specimens of wood were cut in the form of books, each bearing its botanical name, and thus being well suited for museum record.

Acacia tans were numerous in the Government Botanist's cases, and in order to show their application to tanning purposes a piece of leather tanned by each preparation was attached to each case. Great prominence was given to the photographs and engravings exhibited. Mr. J. W. Lindt and Mr. R. L. J. Ellery, of Melbourne, showed a very handsome series of the former. Mr. J. Bosisto, M.P., exhibited a very complete collection of Eucalyptus preparations. A full account of the articles comprised in this exhibit and information as to the properties of the different preparations will be found in the Victorian Catalogue. A striking feature in the Court was the carriage and model pair of horses sent by Messrs. Stevenson and Elliott. A large number of samples of Victorian food-products were shown at the east end of the Court. Among the more prominent exhibitors may be mentioned Messrs. Felton, Grimwade & Co., the Heidelberg Cheese and Condensed Milk Company, Limited, Mr. E. Rowlands, and Messrs. Swallow and Ariell. The fancy-work by Mrs. J. E. Lawrence and Miss A. Smith, and some ornaments made of emu eggs mounted in silver, were much admired. A part of the Court was divided off from the main hall, and a reading-room was formed for the exhibition of Victorian newspapers and periodicals. Here visitors were enabled to obtain all the latest information as to current events in the colonies.

CHAPTER VI.

Foreign Countries represented at the Exhibition.

AUSTRIA.

The exhibits sent from Austria were, with the exception of Messrs. Silbiger & Co.'s marble daïs, the heliogravures of the Military and Geographical Institute of Vienna, and some paintings placed partly in one of the sheds running along the face of the museum and partly in the Art Gallery.

The marble daïs, which was a remarkably handsome piece of work, was placed in the courtyard of the museum, and was used at the opening and closing ceremonies for the accommodation of the Viceroy and other notable personages. An award of a certificate of a gold medal was granted for this exhibit.

A very large collection of paintings was shown in the Art Gallery by Messrs. T. Schnell and Son of Vienna, the best of which are enumerated in the award list.

The heliogravures exhibited by the Military and Geographical Institute of Vienna through Major Waterhouse were placed in the Survey Department Court along with other exhibits of a similar nature, and obtained the highest award.

The rest of the exhibits were shown in the shed running along the side of the museum fronting Chowringhee.

Only two exhibits came under the sections of application of the liberal arts and health,—the stationery sent by Mr. F. Rollinger and the insecticide powder by Messrs. Fratelli Faber, of Trieste. A silver and a bronze medal were respectively awarded to them.

An excellent display of furniture and glassware was made. The bent wood furniture by Messrs. Jacob and Joseph Khon of Teschen and by Messrs. Thonet *Brothers* of Vienna, and the tin enamelled hollowware by Mr. Emil Neher, attracted much attention owing to its suitableness to the nomad style of life so prevalent in the English community in India. The work was extremely light, and in the case of the furniture graceful in form. Certificates of gold medal were awarded to the three exhibitors mentioned.

Glassware was not so well represented as would have been expected; only two firms, Mr. Carl Geylings of Erben and Messrs. Carl Meltzer & Co. of Langenau, obtaining silver medals for stained glass windows and for Austrian, Bohemian, and decorative glassware respectively.

In the section devoted to food-products a considerable number of awards were gained. Certificates of gold medals were awarded to the maraschino exhibited by Mr. G. Luxardo and by Mr. T. Stampalia, both of Zara, and to the Kronzprinzessin Steffani natural mineral water by Messrs. Kahl & Co. of Krondorf.

There were but few exhibits in the sections not mentioned. The most remarkable were the steel exhibited by the Krainische Industrie Gesellschaft, and the fez caps by Messrs. Adolf Munch and Sohn of Vienna.

FRENCH INDO-CHINA.

TONQUIN.

The application for space from the French colonies arrived so late that it was only possible to offer them a position in the annexe to the Indian Courts. The French Commissioners on arrival decided that this space would not permit of their exhibits being satisfactorily set out, and a site was therefore placed at their disposal to the west of the Indian Court, on which, with the assistance of Messrs. Burn & Co., a very characteristic building was erected in the Annamite style of architecture. This building, surrounded as it was with shrubs and decorated outside with panelled work, formed one of the most attractive features of the Exhibition. The Court was entered through a verandah and an ante-room. In the former handsome specimens of Tonquin furniture inlaid with mother-o'-pearl, and large China vases, afforded a fitting contrast to the sombre Buddhas and religious emblems exhibited in the ante-room. The main portion of the building contained a large collection of interesting and grotesque articles, of which Tonquin contributed a large and valuable portion, comprising a variety of excellent woodwork inlaid with pearl in the shape of tables, stools, boxes, crosses, trays, and ornaments of every description. There was, too, a large display of other kinds of woodwork, including some huge images admirably coloured in imitation of brass. The brass-work itself from Tonquin was noteworthy. Food-grains, economic products, arms, models of machinery for various

purposes, cane-work, silks, and other fabrics, and many other articles for ornament or use, were included in the collection. The Court was well arranged, and the general effect was excellent.

The following account of the countries comprised in Indo-China and of their manufactures has been compiled mainly from the official catalogue.

The province of Tonquin, on the north-east of Annam, lies between 18° and 22° north latitude and 102° and 104° east longitude. It is watered by the Songkoi, the Red river of China, and is intersected by a number of small rivers and tidal channels, which both form cheap highways for internal commerce and the trade with China and serve to irrigate the soil for agricultural purposes.

The lower portion of Tonquin is a flat country, consisting almost entirely of alluvial lands, admirably suited to every kind of tropical cultivation and producing excellent rice. The higher lands in the north are rich in cereals of all kinds, and produce a great variety of other crops. The natives successfully cultivate sugar-cane, tobacco, cotton, tea, betel-nut, coffee, indigo, vanilla, mulberry, oil-seeds, pepper, spices, &c., but rice, of which forty different kinds are grown, is the principal crop of the country.

On the north, and near the mountains forming the boundary between Tonquin and China, commences the forest region, of which the vegetation is peculiar and very beautiful.

The delta of the Songkoi is very thickly populated. It contains the large towns of Haiphong, Hanoi, Sontay, and Bacninh, and it is studded with large villages situated on the banks and at the junctions of almost all the rivers. The population of Tonquin amounts to about 30,000,000, or more than half of the total population of Indo-China, of which the area of Tonquin forms but the twentieth part.

As might be expected from the configuration and from the geographical position of the country, the temperature and climate of Tonquin vary greatly in different regions. As in India, the year is divided into two main periods,—the rains and the dry weather; but the air always contains more or less moisture, and a *short* hot season precedes the advent of the rains.

The abundance of water, the heat, and the natural fertility of the soil, combine to produce a luxuriance and

variety of vegetation comparable only with that of the Malay peninsula, the richest in Asia for the abundance and diversity of its products. On the sea-shore are to be found the Rhizophora, utilised by the natives in many ways, and other trees. Beyond this zone, the flora of which has not yet been modified by man, are the vast rice-fields and other cultivation mentioned above; and in the virgin forests on the north teak, india-rubber, oak, and the other timber trees of the Himalayas, China, and Japan, are to be found in great abundance.

The fauna of Tonquin much resembles that of India, comprising the elephant, the rhinoceros, the tiger, the boar, &c.; while small game, such as ducks, pigeons, wild geese, and wild fowl, are abundant. The farm-yards are plentifully stocked with every variety of poultry, and the rivers teem with fishes, which are much appreciated by the natives. The tiger is trapped in pitfalls; the elephant is captured and tamed, but very little used; buffaloes and oxen are plentiful, and are used for agricultural purposes; horses are small and wanting in strength, but a few of a better class are imported from Hongkong and India for use in the large towns.

The principal town of Tonquin is the ancient city of Hanoi, on the right bank of the Red river, and in the centre of a vast plain. This city, which for the last 2,000 years has carried on a large trade with the Chinese province of Yunan, has fine houses of brick and stone and some good walks, and is protected by an embankment from inundations.

The chief commerce of Hanoi is the river-borne trade with China and the coasting trade with the northern ports and with Cochin-China. Until now this trade has been entirely in the hands of the Chinese, several thousands of whom inhabit a separate quarter of the town. The conservative and protectionist policy of China until the establishment of the French protectorate successfully prevented all export trade from Tonquin except to China itself.

The pervading influence of Chinese civilisation, and the industry of the people of Tonquin generally, and of Hanoi in particular, were well illustrated by the delicate carvings, the rich incrustations in mother-o'-pearl, the lacqueredware furniture, and the quaint bronzes contributed to the Exhibition.

The most prominent exhibitors in the Tonquin Court were Monsieur B. Cabasse, chemist, French Navy, the

Government of Tonquin, Bishop Puginier, Monsieur Lalande of the Hanoi Customs House, and other Government officials, who freely lent their various private collections to enhance the value and variety of the exhibits sent by the colony.

COCHIN CHINA.

In the case of this colony also the Government of Saigon, the Chamber of Commerce, Mons. Moquin Tandon, Me. Thi nam-quan of Binh-hoa, Mons. Poignand of Saigon, and various other officials and native gentlemen, enriched the collection exhibited by lending their private property.

The inhabitants of a country bounded on two sides by the sea, intersected here and there by tidal streams, and abounding in tanks, marshes, and rivulets, are almost of necessity fishermen. The fisheries, most of which are situated on the coasts, are principally to be found in the districts of Chandoc, Sadoe, Longxuya, Mytho, and Baria. The right of letting them belongs to the Government.

The sea-fishing begins in November and ends in April or May. The river-fishing begins nominally in September and ends in April or May. The first three months of the season are employed in repairing materials or establishing new fisheries. Actual fishing only begins in December, and lasts about two months, after which there is a break of about the same length. Then fishing is resumed and continues till the rainy season has finally set in. The large (Touly sap) fishery in Cambodge employs from 12,000 to 14,000 Annamite fishermen, besides Cambodians, Malays, and Chinese. The Annamite fishermen arrive about November with their families, boards or masonry partitions, bedding, bamboos, and the timber necessary for the construction of their houses, and fish-drying apparatus. Having chosen their localities, they drive in piles to support their houses and erect wooden fences to dry their nets. Entire temporary villages thus spring up in a few weeks. By uniting in this manner, the fishermen are able to defend themselves against surprises and sudden attacks from marauders and pirates who infest the almost deserted localities where fishing takes place, and to afford mutual help when the take of fish is abundant and the nets provided are insufficient. The produce of the fishery is divided according to traditional rules.

The nets used are somewhat similar to those employed by European fishermen. They are generally large, and made of the fibre of the China nettle, which resists the corroding agency of water. The fish are decapitated and collected into

the boats, and on return to the village are split into two parts, cleaned, washed, salted, and dried in the sun.

The trade in Cochin Chinese and Cambodian fish with Siam, Annam, China, Singapore, the Malay countries, and Manilla is important.

Nuocmam, or fish sauce, is held in great estimation throughout Annam and Tonquin, where it forms a portion of the daily food of the inhabitants, being generally used for seasoning either fried or stewed fish. The best nuocmam comes from the island of Phuquoc, and is made by covering the fish with a layer of salt in a large wash-tub, where it is allowed to ferment for two months. A fluid, which is soon set free from the mass, is collected by a side opening near the bottom of the tub, and when the oil rises to the surface the fluid is boiled and poured into small jars, which are hermetically sealed. Large quantities of nuocmam are consumed throughout Annam, Cambodge, and the whole of the eastern coast of Indo-China.

Alligators of great size are very plentiful in the Cochin China rivers and creeks, and their flesh is much prized by the Annamites and Chinese. They are caught with a bait and kept in enclosures until required, when they are killed and smoked for exportation.

The Annamites, who are skilful bricklayers, make excellent mandarin, or royal bricks, as well as flat or compressed and loose bricks. Unfortunately the demand for bricks since the establishment of the French power has led to a sacrifice of quality of workmanship to rapidity of production.

The common pottery of Cochin China comprises vases of all shapes and dimensions, and cooking-utensils, stoves, and saucepans. Fire-proof pottery is generally manufactured in villages in the east and in the extreme west of the country. The ceramic products of the Caimai factory, established about the year 1880 near Cholon, are far better than the common pottery of the country. They include large-sized pottery of a plastic, ornamental type, drainage and water-pipes, and vases and pedestals of all sizes in the Chinese style, of a finish which will bear comparison with that of the finest Chinese ware. The greater portion of the produce of the Caimai manufactory being far cheaper than Chinese pottery is in great demand.

The honey and wax from Cochin China are produced by small wild bees inhabiting the forests of Trams and Gias, in inundated lands, and the Hatien and Rach Gia territories. The hives are formed in the branches of large

trees on high ground, and the honey is obtained by stupefying the bees with smoke. A bee-hive generally produces 9 to 10 bowls of honey and from 1 to 4 cakes of wax. The value of the honey is about 80 centimes per Annamite pound. Wax is worth about 4 francs 80 centimes per Annamite pound of 750 grammes.

Cochin China produces a great quantity of cocoanut oil, but the processes in use are very imperfect and wasteful. The nut is stripped of its rind or bark and broken, and the interior is taken out and rubbed on a grater made of several rows of fixed pivots attached to a wooden bench. The pulp thus obtained is thrown into a tub or trough, and after being trampled under women and children's feet is soaked in water for some hours. The oil, which rises to the surface in white layers, is skimmed off and boiled in an iron vessel, after which it is placed in large earthen jars covered with a wooden plank, or in gourds capable of holding 8 to 10 pints, and sold. The pulpy residue is used for cattle food.

Several kinds of gold, silver, ivory, jet, and other jewelry, are made in Annam. The workmanship and design are generally very simple, and will not bear comparison with the excessive ornamentation of Chinese, Cambodian, Burmese, and Indian work. Three kinds of bracelets are generally worn by women, one of which indicates the bride; another, the young mother; and a third, the lady of mature age. Necklaces are made in gold or silver, simple or carved, round or flat, narrow or large. Rings for the legs, fingers, and ears, hair-pins, requisites for the toilet, and clasps for ladies' hats, which latter are invariably very gaudy, are the principal productions of the Annamite workman. The gold used is almost always of a dull, vermilion colour, caused by immersion in a solution of alum and turmeric.

Fans are commonly made of the feathers of birds inhabiting the western forests of the country, especially of the thangbe or pelican, the giasoi, a species of marabout, the chodong, and the bonong or grey pelican. To make a fan, the workman begins by steaming the feathers to give them more flexibility and to restore the lustre which they lose under the stripping process. He then cuts them nicely at the ends and adjusts them side by side on a thin piece of bamboo. A good workman can make two fans in a day.

JAPAN.

The fact that there was a Japanese Court in the Exhibition was due entirely to the enterprise of a private firm—Messrs. Kuhn and Co. of Yokohama. Though the Government of Japan took no official part in the Exhibition, yet the collection shown by this firm was of such beauty and value that it cannot be passed over. The Committee regret that though its excellence deserves more than the cursory mention here made, it is impossible to give an adequate description of it.

Opposite to the Economic Court, and on the north side of the western entrance to the Indian Court, was the space assigned to Messrs. Kuhn & Co. for their collection. This space was fitted up as a separate Court, the entrance to which was through a handsome archway, designed in the Malayan style, the smaller arches being occupied by life-sized bronze storks and other ornaments. On either side near the entrance were placed handsome Japanese cabinets, while in the centre of the Court, facing the main aisle, were some excellent bronzes. On tables and in cases running along the walls were smaller articles, such as chinaware, lacquered-ware, jewelry, fans, and other nicknacks, the walls being decorated with brilliantly-coloured screens, fans, and silk hangings. The articles exhibited in the Court will be found enumerated in this Volume, Part III, and from the list of awards it will be seen how fully the jury recognised their worth.

Some display of Chinese and Japanese curios and manufactures was also made in the Calcutta Court by Messrs. Kwong Yen Sing and Co. of Calcutta. These are mentioned in the latter part of Chapter VIII.

NETHERLANDS INDIA.

The Netherlands India Court was situated in the annexe to the Indian Court. An excellent collection of raw materials and food-products was exhibited, while some of the articles classed under the head of fine arts and wearing apparel were worthy of special notice. Some books of engravings of Buddhist temples in Java, exhibited by the Government, and Mr. Wiselius' ethnological photographs, were of great interest, and obtained a certificate of gold medal and a silver medal respectively. Java indigo and tobacco were judged worthy of the highest award, while samples of coffee, cocoa, and tea obtained similar recognition. In raw products also, and spices, high awards were received.

CHAPTER VII.

Assam.

Assam is the youngest province of India, and neither its history nor its natural characteristics have been favourable to the growth of an indigenous civilisation. The valley of the Brahmaputra appears to have been peopled from the earliest times by small Hindu communities, scattered among a more numerous aboriginal population, who were slowly attracted by the force of their superior civilisation and drawn within the pale of the Hindu religion. Early in the thirteenth century the valley was invaded by the Ahoms, a tribe of Shans, from the upper courses of the Irrawaddy, who extended their conquests in the course of four centuries from the eastern end of the valley to Gauhati. Though, however, they greatly surpassed in power any of the petty dynasties of Hindu or aboriginal chieftains who had preceded them, the Ahoms never attained to complete sovereignty over even the whole valley of the Brahmaputra as geographically defined. Encroachments were made upon their territory by the Bhutias and the wild Himalayan tribes of the north, by the Garos and Kacharis who inhabited the belt of hills on the south. Large portions of the valley remained in a state of primeval jungle or forest, and communications between the settled tracts were carried on chiefly by water. In a kingdom so constituted and of such limited area, there was little scope for the development of trade or the growth of industrial occupations. The state of the Ahom Kings was entirely devoid of splendour. Their utmost magnificence consisted in wearing the indigenous silks of the country and sitting on mats woven of coloured rushes; and in a country where the use of flour, sugar, and oil was unknown, and where the diet of prince and peasant alike consisted mainly of rice flavoured when possible with a sufficiency of salt, the Court had no example of luxury to set to its subjects even in the matter of cookery. The capital itself was merely a collection of bamboo-built hamlets. Masons,

carpenters, blacksmiths, and other artisans generally, were not wanted among a people who supplied their own households with all their domestic requirements. For these reasons the arts and manufactures in the valley of the Brahmaputra, at the time of its final annexation by the British Government in 1838, were few and insignificant; while the tea industry, though adding greatly to the wealth of the country under our rule, has scarcely improved matters in this respect, manufactured articles being usually imported from Bengal.

Leaving the valley of the Brahmaputra, the remainder of the province consists of the belt of mountains to the south, which, beginning from the head of the valley at the eastward, passes in its various sections under the various names of the Naga and Mikir Hills, the North Kachar, Jaintia, Khasi, and Garo Hills, and of the plain districts of Kachar and Silhet, lying to the south of this mountain range. The mountains are inhabited by tribes who (except perhaps the Khasis) make no pretence to civilisation, and whose manufactures consist of woven baskets of cane and striped cloths of cotton or spun silk. Silhet is an old permanently-settled district, with a dense population and a minute subdivision of land. Its arts and manufactures, therefore, are adapted to the wants of a peasant population, equally removed from destitution and from affluence. The settled parts of Kachar answer to the same description; but both in this district and in the southern skirts of Silhet large tracts of hilly country are inhabited only by migratory colonies of Kukis and other uncivilised tribes.

In endeavouring to make a collection of products for the Exhibition, it was obvious at once that Assam could not hope to compete with older, larger, and richer provinces of India in the display of artware or manufactures. It was felt that the Assam Court should convey a true impression of the character of the province as the furthest outpost of British India towards the east, touching the confines of barbarous tribes on all sides, and even including many such tribes within its own territory. The entrance to the Court was in a form of arch borrowed from the domestic architecture of the Nagas. The blank spaces of boarding above and on either side of the arch were utilised for the display of the striped and coloured cloths of cotton and *eria* silk, which form such an important article of domestic industry among all the wild tribes of the province, whether dwelling in the

mountains or in the levels of the Brahmaputra valley. The Nagas weave thick sheets of cotton, sufficiently large to wrap a full-grown man, and dyed in broad stripes of various colours, yellow, brick-red, and deep blue being usually the favourites. Miri *cloths* are likewise of cotton, but slighter and of less ample dimensions, scarcely exceeding the size of a large towel. The stripes are narrower, and present a greater variety of colour. The reds and blues are often very bright, and their arrangement is generally in good taste. The Kukis and Kacharis, Mikirs and Garos of the central range of Assam, and the Meches, who live in the submontane tract bordering on the mountains of Bhutan, employ both cotton and *eria* silk in striped fabrics two to three yards long by a yard in width. These people, like the Miris, affect patterns of narrow stripes, and possess a considerable variety of colours, consisting, however, for the most part of sober shades. From the Khasi Hills come the valuable fabrics of *eria* silk known as Nartiang cloths. These are thick and warm, three to four yards long, about four feet wide, and woven in alternate hand-breadths of white and red. *Eria* cloths, similarly coloured, but of a finer texture, are manufactured in Manipur, and these made perhaps the most effective draperies of all. In fact the Assam Court owed a great part of its attractiveness to the liberal contributions obtained from his Highness the Mahárája of Manipur and brought down by the Political Agent, Major W. F. Trotter, upon whom also devolved the entire arrangement of the Court. Manipuri and Naga arms and equipments were displayed above and on either side of the entrance to the Court, the peak of the arch being surmounted by a magnificent pair of elephant's tusks. Two rhinoceros skulls were placed on the floor beside the doorway on either hand. A model of a Manipuri pony stood outside the Court, to display a Manipuri saddle, with head-gear and trappings. The national form of saddle preserved among the inhabitants of the Manipuri valley (the cradle of the game of polo), which approximates perhaps more closely in material and workmanship to the European saddle than does that of other eastern nations, is distinguished by two large flaps of lacquered leather, which, curving outwards, serve as shields for the legs. In the doorway stood a portrait model of a Manipuri boatman in the Mahárája's uniform, and of a Manipuri dancing-girl in full costume. Both dresses being entirely national and characteristic, made an effective display. The Court was ceiled with coloured cloths, of the

same kind as the draperies of the front, and the walls were hung with Phakial and Khamti silk tartans. These latter, a species of manufacture peculiar to the small communities of Shan settlers in the extreme east of the valley of the Brahmaputra, are woven in a variety of colours, closely resembling those of a Highland plaid. The material is silk, apparently of the *muga* variety, and the dyes are home-made, though the cotton cloths of similar patterns are now mostly woven with dyed thread imported from England.

Two cases of jewelry stood in the Court—one filled entirely with specimens from Manipur, and the other containing the best samples of the goldsmith's art from Assam proper. The Mahárája of Manipur has paid some attention to the improvement of the national type of jewelry, and samples of bracelets of light *repoussé* work in gold and silver were exhibited to show the success which had been attained in this direction. The workmanship, though wanting in finish, is far removed from clumsiness, and the designs are naturally graceful. Gold necklaces of a sumptuous description more accurately represent the style of ornament characteristic of the country. These are composed of indented plaques of gold, from the outer edges of which depend gold drops, the size of the plaques increasing gradually to the middle of the necklace. These ornaments form a very splendid decoration, in which the richness of the material and the half barbaric originality of the design compensate any lack of delicacy noticeable in the execution. The costliest Assamese jewelry possesses little artistic value, consisting mainly of necklaces and bracelets with common stones or pieces of red glass clumsily set in gold. To this rule, however, there are a few notable exceptions. The art of enamelling on gold, for example, is still preserved in Upper Assam, and though not attempted on a large scale, is used for the production of ear-rings and other small ornaments. The kind of silver bracelet or broad wrist-clasp called *muthi kharu* can be tastefully ornamented with inlaid designs in gold. The most attractive, however, of all the exhibits in Assamese jewelry was the gold work of Barpeta. This is used for necklaces and bracelets in gold filigree work, which for beauty of design and workmanship compare favourably with the manufacture of any other part of India, while possessing a charm entirely its own in the beautiful form of pendant peculiar to this part of Assam. It may be described as a locket in the shape of a double filbert, parted below and

joining in a point above; the sides being composed of an unperforated sheet of gold covered on the outside with a number of minute points individually attached. Nothing can be more original or graceful than this ornament, in which both form and expression are perfect of their kind. It is difficult to guess whence the pattern has been derived. The local belief is that it is an imitation of the kind of shell which in less prosperous days the people used to wear as a decoration round the neck. Possibly, however, it is copied from some half-opened fruit or flower. It has no distinctive name, being known merely by the generic title of 'gold,' in which material alone it is wrought. The Exhibition may perhaps prove the means of introducing the local goldsmiths (who are extremely few in number) to the notice of a larger number of patrons than Assam itself is able to furnish. Gold jewelry of a massive and striking description is made in the Khasi Hills. The bracelets are of plaited gold, in closely-wrought bands of an inch or more in breadth, the exterior surface of which is set with conical knobs arranged in geometrical patterns, the bases and tops being richly chased. Where the bracelet is a large one, collars are also made of a band of gold widening towards the centre, and adorned outside with embossed projections lavishly chased. The kind of ear-ring affected by the Khasis is common to all the Brahmaputra valley, and closely resembles in shape a cockle-shell, the ribs of which are accurately reproduced. The work is very fine and delicate, and, if made in slightly larger dimensions, the ornament would serve very prettily as a locket. Besides these, there were exhibited some pins in gold and silver for the hair and ears, and the favourite Khasi necklace of alternate balls of coral and of wood covered with thin gold. These are costly and highly prized, but have little artistic attraction. The principal silver ornament of the Khasi women is composed of a series of closely-woven chains hanging in bands round the neck and united behind on a plate, in which a large coloured pebble or piece of glass is usually set. The effect is rather heavy, but not unpleasing.

Before leaving this part of the Court it will not be out of place to mention the specimens of the ancient Assamese art, now lost, of silver-work on copper. These were obtained on loan from some of the principal shrines in the Assam valley, where they had been used for generations as trays to support votive offerings. They are richly inlaid with conventional floral designs and pictures of animals.

The third glass case in the Court contained ivory-work, mostly from Manipur, and a complete gala costume of a Manipuri dancing-girl. The style of this dress consists of a profuse arrangement of tiny mirrors, worked with gold and silver threads into a background of gaily-coloured silks. The jacket was of bright green silk, and the skirt, of a somewhat paler colour, was almost hidden under the spangles and mirrors with which it was adorned. The effect of such a dress in rapid motion under bright lights would be remarkable.

The *chefs d'œuvre* of the Manipuri ivory-work were two mats, woven of thin slips of ivory. Each of these mats took three years to make, and is worth Rs. 900. They are as soft and flexible as cloth, and can be rolled up into a small compass. Standing on one of these mats, as it lay half unrolled, was placed a set of carved ivory chessmen, lent by the Mahárája. These also were of great value, and furnished a proof that the Manipuri workers in ivory possess not only great delicacy of manipulation, but also originality of design. Three fans made of strips, very finely and closely plaited, afforded another example of Manipuri workmanship in ivory. A chair, of which both seat and framework were made entirely of ivory, was also among the contributions of the Mahárája. Compared with these exhibits, the ivory forks and spoons from Jorhat appeared rude and inartistic. The art is, however, capable of encouragement, and the workers are not destitute of inventive power. Working in ivory has long been known in the Assam valley, but the best specimens belong to a former period. Three baskets, very lightly and elegantly wrought, and carved all over with floral patterns, were lent from Goalpara.

One stand was devoted to brass and metalware. The metalware of Assam, if not displaying great elegance or richness of design, is at least, like its pottery, distinctive. It consists of polished brass *lutas*, water-jars, cups, and trays on stands, the latter being usually marked more or less with rude ornamental patterns cut in the metal. The workers are of two classes,—Muhammadan and Hindu. The former turn out rougher articles, bearing the marks of the hammer, while the latter are the more skilful, and their products command a higher price. Some of the forms of water-pots especially are by no means wanting in grace. A very bright, smooth, and heavy style of cup and cooking-pot is manufactured in Manipur.

Allusion has more than once been made to the silks of Assam. These are of three main kinds:—*eria* silk, produced by the worm feeding on the castor-oil plant; *muga* silk, produced by the worm that feeds on the sum-tree; and *pat*, or common mulberry silk. The *eria* silk is spun; the other two varieties are reeled. *Eria* cloth is usually so thick, warm, and heavy, as scarcely to resemble silk at all. It is extremely durable, and takes the native dyes readily. Some pieces of fine *eria* were exhibited, of a colour nearly white, and in texture resembling very strong and thick linen. The *muga* silk has a pleasing yellow colour and gloss. It is not unlike the finer kinds of *tasar*, but is a more valuable article. The most precious of all the silks of Assam are the varieties of *muga* known as *champa* and *mezankuri*. These are fine white silks produced by the *muga* worm when fed on two special kinds of trees. The *pat* or mulberry silk of Assam is not distinguished in any remarkable manner from that of Bengal. Specimens of all these silks were exhibited, both plain and dyed. The latter are worn by hill tribes. It is not likely that the silks of Assam will receive much stimulus from the Exhibition, or that they can ever become popular out of the province, where their consumption is limited to the Assamese, and (in the case of *eria* silk) to the hill tribes surrounding the valley of the Brahmaputra. There is, however, some prospect of the utilisation of the large resources of Assam in waste silk and cocoon by English silk-spinners, who now rely chiefly on China for their supply of raw material. From Manipur a splendid collection of coloured silks was contributed, which was displayed in a separate case on one side of the Court. These silks are very fine in texture, and the dyes are extremely brilliant and effective. Some fine muslin cloths embroidered with gold were also exhibited from Manipur and from the Assam valley.

Arms and accoutrements of most of the savage and semi-savage tribes, whose frontiers march with the confines of Assam, were displayed upon the walls of the Court. A Manipuri *dao* inlaid with silver deserves special mention among these trophies. Rhinoceros' feet, stools made of elephants' feet, the skulls and horns of buffalo, *mithan* or wild ox, and of a large variety of deer, were exhibited as illustrating the *fauna* and *ferœ* of the province. The most interesting exhibits of a kindred description, however—specimens of the wild tribes of Assam, in portrait models of clay—were not destined to grace the Assam Court, where indeed they could

not have been accommodated. They form part of the general ethnological collection of India, to which Assam contributed Khasis, Syntengs, Garos, Miris, Abors, Mishmis, Angami, Lhota, and Borduaria Nagas, Khamtis, and Singphos—a larger variety of little-known and interesting families of the human race, perhaps, than was sent from any other province of the empire.

CHAPTER VIII.

Bengal.

PROVINCIAL COLLECTION.

Owing to the large quantity of space required by the other provinces invited to send specimens of their artwares and manufactures to the Exhibition, it was found impossible to allot to Bengal a Court similar to the rest. The Bengal contributions were therefore placed in the centre transept of the maidan building. This arrangement, though unavoidable, was to be regretted, inasmuch as no wall space was available, and the necessity for leaving wide passages and ample room for circulation for visitors so far reduced the floor space that it was impossible to exhibit a very large portion of the articles contributed. Endeavours were, however, made to secure the best representation of which the circumstances of the case admitted. To this end the articles were placed in high glass cases, which, though roomy, detracted to some extent from the appearance of the transept. The collection of specimens from Bengal was made under the more immediate supervision of the Executive Committee, a member of which was deputed to visit the principal manufacturing centres of Bengal and Behar to procure loans of jewelry and other valuable and curious articles from many of the chief nobles of the province. The thanks of the Executive Committee are due to the gentlemen who came forward so readily and liberally in this respect. Among these the Mahárája of Hill Tippera, Nawáb Ali Kadár Hasn Ali Mirza of Murshidábád, the Mahárájas of Burdwan, Bettia, Dumraon, Darbhanga, and Keonjhur, the Mahárání Swarnamayi, M.C.I., of Kasimbazár, the Rajas of Khandpara, Nayaghar, and Rampur, and Nawábs Abdu-l-Ghání, C.S.I., and Ahsanulla of Dacca, deserve special mention for the articles contributed by them, many of which were of high artistic interest as well as intrinsic value. The actual collection of articles, whether lent, purchased, presented, or sent for sale, devolved on the local authorities of each district, the task being undertaken in some cases by the district officers

and their subordinates, and in others by Committees appointed for the purpose. The work, which was in many cases difficult and everywhere entailed a considerable expenditure of time and labour, was done with much readiness and energy, the care bestowed upon it being fully attested by the completeness with which the arts and manufactures of Bengal were represented.

An interesting portion of the collection—the jewelry—was, for purposes of safe custody, kept apart from the remainder in the jewel-room.

In this room was exhibited a selection from the celebrated State jewels formerly belonging to the late Nizamat of Bengal and now in the possession of the Nawáb Bahádur of Murshidábád. Much of this collection was of very great intrinsic value, though, from the fact that the stones are for the most part uncut or cut in the Indian fashion, the general effect is less conspicuous than would otherwise be the case. The collection comprised several necklaces, bracelets, and *sirpeches* of great value, conspicuous among them being an armlet, of which the centre stone was a large emerald engraved with a chapter of the Kuran. A jade bowl set with rubies was also very remarkable. The following is a list of the jewels exhibited by the Nawáb, from which an idea of the weight and number of the precious stones comprised in it may be formed:—

An emerald necklace composed of 31 fluted round emerald beads, 5 polished drop-shaped emeralds, 1 hexagon-shaped large flat emerald pendant, polished on one side and carved with leaves on the other, and 12 pearls of various sizes. The emeralds are of good colour, but the large one is disfigured by numerous black spots. The pearls are lessened in value by being drilled with holes in many places. Gross weight 896 ruttees.

An emerald necklace composed of 31 fluted round emerald beads, 4 polished drop emeralds, 1 large flat emerald pendant, fluted on one side and polished on the other, 1 fluted emerald drop, and 12 pearls of various sizes. The same remarks as above apply to the emeralds. The pearls are better than those in above necklace. Gross weight 866 ruttees.

An emerald necklace composed of 25 fluted round emerald beads, 4 polished drop emeralds, 1 plain polished drop-shaped emerald pendant, roughly resembling a heart, with one emerald drop, and 12 pearls of sizes. Quality similar to above. Gross weight 515 ruttees.

An emerald necklace composed of 25 fluted round emerald beads, 4 drop emeralds, an emerald pendant engraved with inscription in Arabic characters, and 1 emerald drop. Gross weight 574 ruttees.

An emerald necklace composed of 21 fluted round emerald beads, 2 polished drop emeralds, 1 small emerald pendant, with 1 emerald drop cut in facets, and 8 pearls of various sizes and qualities. Gross weight 306 ruttees.

A necklace composed of 6 large polished lals, 18 fine large pearls of a round shape, and 2 large drop-shaped pearls, 17 large fluted round emerald beads, and 4 small ditto, a pendant composed of a large flat emerald set in gold, bordered by 16 brilliant diamonds and 28 small rose diamonds set in silver, and a large lal drop attached. Gross weight 1,786 ruttees.

A necklace composed of 4 large polished lals, 13 large fluted round emerald beads, and 4 small fluted round emerald beads, 14 fine round pearls, and 2 drop-shaped pearls, a pendant composed of a large flat emerald engraved with inscription in Arabic characters, bordered by 12 brilliant diamonds set in silver, and 1 lal drop attached. Gross weight 1,171 ruttees.

A necklace composed of 13 large fluted round emeralds, 4 small fluted round emeralds, 4 large polished lals, 16 fine round pearls, a pendant composed of 1 fine large white brilliant diamond and 3 smaller white brilliant diamonds and a large lal drop attached. Gross weight 696 ruttees.

A necklace composed of 46 tanbuz diamonds, 7 button-shaped emeralds set in gold, with a pendant composed of 1 emerald in the centre, surrounded by 9 tanbuz diamonds set in silver with a polished emerald drop attached. Gross weight 1,057 ruttees.

A necklace exactly the same as the last, excepting that the emerald drop is fluted instead of being plain. Gross weight 1,143 ruttees.

A necklace composed of 44 tanbuz diamonds and 7 button-shaped emeralds set in gold with a pendant composed of one emerald in centre, surrounded by 9 tanbuz diamonds set in silver, with a fluted emerald drop attached. Gross weight 736 ruttees.

A necklace exactly the same as the last, excepting that the emerald drop is plain instead of being fluted. Gross weight 735 ruttees.

A necklace composed of 24 pearls, 20 round emerald beads with a pendant composed of one large triangular-shaped brilliant diamond and 1 small triangular-shaped brilliant diamond, 2 emeralds, with a polished emerald drop attached. Gross weight 358 ruttees.

A necklace composed of two polished lals (weight 118 ruttees pair), 12 large pearls, 15 round emerald beads, a pendant composed of one fine white brilliant diamond, with one small ditto, 3 small emeralds in all, with a polished emerald drop attached. Gross weight 416 ruttees.

A pendant composed of one large flat emerald, surrounded by 14 brilliant diamonds set in silver and with a large polished lalri drop. Gross weight 237 ruttees.

A pendant composed of a large thick cut emerald, in the front of which is a yellow topaz sunk, set in gold, with a polished lalri drop attached. Gross weight 184 ruttees.

A binal or forehead ornament composed of one large flat diamond, 11 small ditto, 8 large drop pearls set in gold. Gross weight 248 ruttees.

A binal or forehead ornament composed of one large flat diamond and two small ditto, 9 rubies, and 9 drop pearls. Gross weight 204 ruttees.

A serpaich, set in silver, with a large flat diamond in centre, with 38 other flat diamonds around, sundry small rubies and 3 drop diamonds attached. Gross weight, tolas 11-6-0.

A serpaich composed of five flower-pattern medallions, containing five large and four small rubies, two flat diamonds at the ends, 40 kerun diamonds bordering the five large rubies, and with five ruby drops set in gold and silver. Gross weight, tolas 3-7-3.

A serpaich, flower-pattern, composed of five flat centre diamonds, surrounded by five ruby keruns, 18 small flat diamonds, and with 5 cut emerald drops set in gold and silver. Gross weight, tolas 5-15-9.

A serpaich composed of one large engraved emerald and 36 small emeralds, all carved, with one fluted emerald drop set in gold. Gross weight, tolas 8-10-9.

A serpaich composed of one large polished lalri in centre, two large polished emeralds, four small rose diamonds, 10 drop diamonds, and a little silver setting. Gross weight, tolas 4-2-0.

A spice-box of round shape, fluted sides, domed cover, bottom green enamelled, the outside covered all over with elaborately carved emeralds placed close together, so as to show very little gold, a small brilliant set in top of cover. Gross weight, tolas 13-12 0.

A spice-box of round shape, jointed flat cover, enamelled inside lid and at bottom outside. Top set with round cabochon rubies, side all round set in an elegant pattern with rubies, emeralds, and flat diamonds, stones close together. Gross weight, tolas 10-15-0.

A spice-box, smaller size, round shape, top covered with kerun rubies arranged as the petals of a flower in several rows, with one brilliant in centre, all round side set with large rubies and small emeralds, enamelled in colours underneath and inside lid, green inside bottom. Gross weight, tolas 6-7-0.
Aigrette of diamonds and rubies.
Ditto ditto and emeralds.
Ditto of engraved emeralds.
Two armlets, diamonds and emeralds.
Rose-water and betel-nut apparatus, gold thickly studded with rubies.
Jade bowl set with rubies.
Ancient scimitar, enamelled hilt set with rubies.
State scimitar.
Ditto, the present of her Majesty the Queen.

A very fine collection of jewelry was exhibited by the late Mahárája Aftáb Chánd Mahtáb Bahádur of Burdwan, comprising three crowns jewelled respectively with diamonds, rubies, and emeralds. The principal stone in the diamond crown is of historical interest, and is believed to have been the pendant drop held in the beak of the peacock in the celebrated *takht-i-ta'ns* or peacock-throne of the Emperors of Delhi. The Mahárája of Burdwan also exhibited two very fine diamond necklaces, a gold throne, on which the arms of the Burdwan family are jewelled in rubies, and a silver *palki*. It is much to be regretted that a portion of the gold throne, which, from its great size, it was impossible to keep in a case, was stolen. This was the only case of theft of any really valuable article which took place during the Exhibition. The loss, amounting to over Rs. 500, was made good by the Government.

The late Mahárája Rajendra Kisor Singh of Bettia exhibited a handsome collection of family jewelry, and a valuable collection of gold and silver ornaments of the kinds commonly worn by the higher classes in Behar was contributed by Mahárája Radha Prásád Singh Bahádur of Dumraon. Mahárája Krishna Pratáp Sahai of Hutwa exhibited a very valuable jewelled *hukka* and a pearl tassel.

A small but very costly collection of jewelry was exhibited by Nawábs Abdu-l-Ghání and Ahsanulla of Dacca, comprising a splendid diamond star, formerly the property of her Imperial Majesty the Empress Eugénie; an armlet consisting of three diamonds, of which the centre stone, unfortunately cut in table form, is that known as the *Darya-e-nur*, or river of light, one of the largest diamonds in the world; two emerald and diamond armlets; and an armlet consisting of an emerald engraved with a chapter of the Kuran, flanked by two smaller emeralds, into each

of which is let a diamond engraved with the word *Allah* in Arabic characters. These diamonds are of peculiar interest, the number of engraved diamonds known to exist being very small.

The transept of the Indian Court, in which such of the Bengal specimens as could be shown were exhibited, measured 96 feet by 40 feet. The centre was occupied by a large and handsome crystal fountain, the property of Messrs. Osler & Co. In the centre aisles, leading up to the transept, were two full-sized elephants made in *papier-maché* by modellers from Jeypore. These were draped with trappings characteristic respectively of Jeypore and Behar. The Behar elephant was covered with a magnificent gold-embroidered cloth (*jhul*) manufactured by Piru Khan and Muhammad Wazir of Patna, to which a gold medal was awarded by the artware jury. The elephant was surmounted by a very handsome ivory howdah kindly lent by the Mahárája of Dumraon, who also supplied a set of trappings and the clothes for a figure of a *mahaut*. The walls at either end of the transept by the sides of the entrances were covered with large mirrors lent by Messrs. Lazarus & Co. These were surrounded by a handsome oriental border copied from the frontispiece of a manuscript book lent by his Highness the Mahárája of Alwar. The space above the doors on the western side was occupied by Japanese screens and hangings, and that on the eastern side by carpets from the North-Western Provinces.

The articles from Bengal exhibited in the transept were placed in four large cases surrounded by a pyramid of brassware of the kinds in ordinary household use in Bengal. This collection was lent by Bábu Táruk Náth Parámánik, one of the largest braziers of Calcutta.

In describing the remaining articles in the Court, it will be convenient to follow the order in which they stand in the catalogue.

The number of old pictures in the possession of wealthy native gentlemen in Bengal and Behar is smaller than might be expected. The best collection is that of the Nawábs of Murshidábád, which contains portraits of many of the Nawábs Názim of considerable historical interest. This collection was represented in the Exhibition by several selected pictures. A small and interesting selection of portraits of the older Nawábs Názim, dating from the time when the Nizámat was situated at Dacca, was also contributed by Nawáb Ahsanulla Khán Bahádur. Two large

and interesting representations of the sports of Krishna, and one of the temple of Jagannath at Púrí and the ceremonies connected with it, were contributed by the Rája of Daspála in Cuttack and the Puri District Committee respectively.

The only architectural models exhibited, other than those contributed by the Government, were two—representing respectively Sher Sháh's tomb at Sáhsaram and the temple of Jagannáth at Púri.

The most conspicuous articles coming under the head of miscellaneous works of art were the ivory-carvings of Murshidábád. These have long been famous, and though the art of ivory-carving is no longer in the flourishing condition in which it once was, the specimens exhibited show that it is by no means extinct or incapable of revival. The city of Murshidábád no longer occupies the important position which it formerly held as the seat of the Government of Bengal and a great commercial centre. Situated as it is at a distance from Calcutta and from any main line of railway, its products, of which the most noticeable are ivory-carvings, *bídrí*-ware, and bell-metal, find little sale beyond the place of manufacture. The ivory-carvers, who are all in humble circumstances, have no agents and keep no stocks in hand. They work only to order, and for the most part have to be supplied in the first instance with the ivory which they are to carve. As might be expected, they are unpunctual and unmethodical, and it is therefore difficult to get orders executed promptly. This defect, however, while preventing the demand from increasing, and thus depressing the industry, has not been without its effect in preserving the careful character and minute execution of the work. The specimens exhibited were contributed chiefly by the Nawáb of Murshidábád and by Rái Bansidhar Ráy Bahádur, the Superintendent of the Nizámat. The best were some images of the gods Ganes, Siva, Jagaddhátri, and Saraswati, and models of boats. Of these the workmanship was wonderfully minute and careful. Ivory-carving is carried on in many other parts of Bengal, notably in Orissa and Chittagong; and though the Orissa specimens were superior to those from Chittagong, neither district can vie at all with Murshidábad. Curiosities, in the way of ivory-work, were exhibited by the Hon'ble the Mahárája of Darbhanga and by Nawáb Ahsanulla in the form of mats woven of thin strips of ivory. The former of these mats was manufactured by an artist

attached to the estate at an estimated cost of Rs. 1,325 : the latter was made in Sylhet.

This section contained also several miscellaneous articles, including some curious native playing-cards exhibited by the Collector of Sháhábád, some handsome manuscripts, and some large-sized models representing the ceremonies of a Bengali household. Among the manuscripts the best were a *murakka*, or scrap-book, containing choice specimens of hand-writing collected for the Emperor Aurangzeb, and a copy of the *Kata'át-i-Ibn Imán*, which formerly belonged to the Emperor Jahángir. A very interesting *murakka*, containing historical portraits and specimens of caligraphy, was also kindly lent by Sayyid Muhammad, Khán Bahádur, Deputy Magistrate of Muzaffarpur. A valuable Thibetan manuscript, written in silver on black leaves, was exhibited by Bábu Sarat Chandra Dás, Deputy Inspector of Schools, through the Deputy Commissioner of Darjiling. The clay models, which represented the ceremonials performed at the birth of a child, and on the occasions of marriage, sickness, and cremation, and the worship of Káli, were manufactured by the potters of Gharnia, in the district of Nadiya, under the supervision of Rai Kanai Lál De Bahádur, C.I.E., and Babu Trailokanáth Mukharji, of the Exhibition Branch of the Revenue and Agricultural Department of the Government of India. The skill of the Krishnaghar modellers in representing the ordinary scenes of every-day life in clay is well known, and the specimens exhibited were of considerable merit. To the large crowds of natives who thronged the building they presented one of the most attractive features of the Exhibition. Some skilful models of fruits and fish were exhibited from the district of Saran.

The specimens of educational appliances received from the different districts were made over to the Educational Department and exhibited in the Educational Court.

The only articles in the Bengal Court coming under the head of applications of the liberal arts, with the exception of a curious astronomical instrument lent by Máulvi Fazl-i-Rahmán of Patna, of which the pattern is said to have been brought from Central India, were musical instruments. Of these the Executive Committee were fortunate enough to secure a singularly complete and valuable collection, for which they are indebted to the kindness of Rája Sir Surindra Mohan Tagore, Kt., Mus. Doc., C.I.E., a wealthly native gentleman of great musical skill, who has devoted himself

with much interest and liberality to the encouragement of the study of music in Bengal. The following is a list of the instruments exhibited in this collection, with a description of each given by the exhibitor :—

(*a*)—Tara Yantra—Stringed Instruments.

The following are classed as Drawing-room Instruments :—

(1) *Played upon with a steel mizrab (plectrum).*

Bipanchi Viná.—The hollow of this classical instrument is made of a peculiar kind of gourd, known in Bengal as the *Tith Láu*. In all other respects the instrument resembles the *Kinnari Viná*. In modern times it is seldom mounted with more than five strings.

Kachchhapí Viná.—A very classical instrument, popularly known as the *Kachuá Setár*. It owes its name to the shape of the gourd, which is flat like the back of the *Kachchhapa* (tortoise). The present name "Setár" (literally, "three wires") was given to it by Amir Khushru (a poet and musician of the 13th century), on account of the number of wires with which it was then mounted. The wires now used in it vary from five to seven. The instrument is said to have been the favourite of Saraswátí, the Goddess of Music. The specimen exhibited is the handiwork of Sukhlal, a celebrated instrument-maker of Dacca.

Kachchhapí Viná.—The specimen exhibited is made of ivory.

Kachchhapí Viná.—The specimen exhibited once belonged to the historic house of the Rajás of Bishnupur, in the district of Bankura, once very famous for the encouragement given by it to the practice of Hindu music. A present to the exhibitor from the late Keshab Chandra Bhattacharjya, a renowned musician of Bishnupur.

Kinnari Viná.—The hollow of this instrument is in some specimens made of eggs, and in others of precious metals. In construction, tuning, &c., it resembles the *Kachchhapí Viná*, though smaller in size. This instrument was in former times used by women, and is said to be the origin of the *Kinor* of the Jews.

Mahati Viná.—This is the most classical, and perhaps the most difficult, of the musical instruments of the Hindus. Its invention is ascribed to the pious sage Nárada, who used it to accompany his hymns to the Deity. It consists of five main wires and two side wires, the latter being used for the purpose of giving an artistic accompaniment to the performance. This instrument is said to be the mother of several varieties of stringed instruments used in ancient and modern Europe. The instrument is popularly called in India the "Bin," a corruption of the term "*Viná*."

Nadesvara Viná.—A very modern instrument, being a combination of the *Kachchhapí Viná* and the violin. The instrument is tuned and played upon like the *Kachchhapí*.

Sauktika Viná.—A variety of the *Kachchhapí Viná*. The hollow of the instrument is made of mother-of-pearl.

Surbahar.—This is an enlarged variety of the *Kachchhapí Viná*, devised about 60 years ago by Ghulám Muhammad Khán, a noted musician of Lucknow. The instrument is specially adapted for the playing of the *Alapa*, *i.e.*, the expression of a melody in all its phases. The specimen exhibited can be taken into three pieces and packed in a circular box. It was manufactured by Ram Chand Mistri of Calcutta.

Tritantri Viná.—A variety of the *Kachchhapí Viná*. The hollow of the instrument is flat, and in some specimens made of wood. That exhibited belonged to the late Babu Ashutosh Deb, Calcutta, a well-known practical musician. The instrument was subsequently presented to the exhibitor by the late Babu Sarat Chandra Ghosh, a member of the house of the former owner, and was made by Madhu Mistri, formerly a famous Setár maker of Calcutta.

Tritantri Viná.—The specimen exhibited was manufactured for the exhibitor in Brussels, under the direction of Chevalier Victor C. Mahillon, Superintendent of the Royal Conservatory of Music, Brussels.

(2) *Played upon with an iron jawa (plectrum).*

Prasarani Viná.—This is a modern instrument, constructed on the principle of *Kachchhapí Viná*, but without side wires and with a subsidiary finger-board. It is mounted with three wires, respectively tuned as the F, C, and G of the lower octave.

Sursringara.—This instrument is a mixture of the *Mahatí*, *Kachchhapí*, and *Rudra Vinás*, devised by the celebrated *Viná* player Piyár Khán. The instrument is, like the *Rudra Viná*, placed against the shoulder of the player. It is mounted with six wires, and to its narrow end is attached a hollow gourd to increase the volume of sound produced.

(3) *Played upon with a wooden jawa.*

Rudra Viná.—Now known as "Rabáb" among Muhammadan musicians of Persia and Afghanistan, and "Rubáb" among those of Arabia. It is mounted with six strings made of cat-gut, and is said to be the prototype of the mandoline, Spanish guitar, and other instruments of a similar construction. The instrument has no frets arranged over the finger-board.

Sarod.—An instrument much used by musicians of the North-Western Provinces of India. It was formerly used in outdoor royal processions. Like the *Rudra Viná*, it is mounted with cat-gut strings, which are, however, tuned on a different principle. Unlike the *Rudra Viná*, it is mounted with side wires, varying in number from seven to eleven.

(4) *Played upon with the bow.*

Alaba Sarangi.—A very old instrument called by some European writers on Hindu music the "Indian Violin." The surface of the instrument is like that of the violin, and there is a hollow gourd under it. The instrument is known among Muhammadan musicians as *Kamarcha.*

Mina Sarhangi.—So called on account of the figure of a fish (*mina*) attached to the end of the hollow. In all other respects it resembles the *Esrar* or *Tayús.* The back of this instrument ought to be made of one entire piece of gourd, but this being rare, a wooden back is frequently used.

Nadataranga.—This is a large stringed instrument, producing a deep bass sound, and used in the native orchestra. A modern instrument, constructed on the principle of the *Esrar*, of which it is merely a large variety, without the side wires.

Sarangi.—This instrument is generally used to accompany dancing and light songs, and is peculiarly adapted to female voices. The *Sarangi* is mounted with four cat-gut strings and side wires of brass, the number of the latter varying at the will of the player. Rávana, the monster-king of Lanká (Ceylon), is said to have been the originator of instruments of this description.

Sursong.—The instrument is merely the *Esrar* without the side wires. It is a modern invention, said to have been made by Sebarám Dás, of Bishnupur, in the district of Bankura, Bengal.

Swaravina.—Popularly called the "Surbín." The instrument is classical, and somewhat resembles the *Rudra Viná* in appearance. The Surbín is mounted with four strings, and is capable of producing three octaves of sound.

Tayús or Mayúri.—The instrument derives its name from the figure of a *Mayura* (Peacock—*Persian*, Tayus) which is attached to the hollow. The addition of the figure constitutes its sole difference from the *Esrar.*

(5) *Played upon with the tips of the fingers.*

Maha Tumbura.—A large variety of the *Tumbura* (*vide* 25). Generally used in native orchestras. The specimen exhibited is the work of Ram Chand Mistri of Calcutta.

Mochanga.—A very classical instrument, somewhat resembling the head of a trident. The instrument has to be held with the teeth, by the left hand, while the wire is gently tapped with the forefinger of the right. Only one note is produced, the pitch of which can be regulated by the use of wax, or of a paste of flour over the wire.

Tumbura or *Tumbura Vínd*, so called after the celestial musician *Tumbura*, who invented it. The instrument is at present mounted with four strings, which serve the purpose of an unvarying accompaniment to vocal music. The object of the *Tumbura* is mainly to indicate the key-note adopted. The instrument has been in use in various countries, in the East and West, from ancient times, under different names, and with varieties of construction and modes of tuning.

The following are classed as Pastoral Instruments :—

(1) *Played upon with a wooden jawa.*

Ananda Lahar.—The instrument consists of one cat-gut string, the variety of sounds produced being due to the different degrees of tension adopted. The *Ananda Lahari* is used mostly by *Bauls* and other singing mendicants.

(2) *Played upon with the tips of the fingers.*

Ektara.—This very classical instrument is mounted with a steel wire, the tuning of which is regulated by the pitch of the singer's voice. The use of the *Ektara* is confined to religious mendicants.

Gopiyantra.—The *Gopiyantra* is, like the *Ektara*, mounted with one wire, which is played upon by the tip of the fore-finger of the right hand. The different sounds are produced by the compression or otherwise of the other fingers, with which the lower part of the instrument is held. This instrument is mostly used by singing mendicants.

(*b*)—Sushira Yantra—Wind Instruments.

Muralí.—(Species of flute). A classic instrument, the favourite of Krishna, to whom its invention is ascribed.

Bansi—(Species of flute). The specimen exhibited is a flute in use among hillmen in the North-Western Provinces of India. Presented to the Bengal Academy of Music by Mr. H. Rivett-Carnac, C.I.E. A pastoral instrument.

Tubri or *Tiktiri.*—An instrument generally used by snake-charmers. The *Tubri* is furnished with two tubes, with key-holes, one of the tubes furnishing the key-note, and the other the notes to be played. The instrument is a very old one, and has been used in different countries under different names.

Mahá Sunkha.—A large-sized blowing conch. The *Sankha* (the *Turbinella Rapa* of naturalists) was used in olden times, both in religious ceremonies and war. The use of the *Sankha* is now confined to processions.

(*c*)—Chana Yantra—Percussion Instrument made of Metal.

Khat-tali.—The Indian castanets, consisting of two bars of steel. The late Khetra Dás Babaji was one of the best Bengali players upon the *Khat-tali*.

(*d*)—Anaddha Yantra—Pulsatile Instruments covered with Skin.

(1) *Played upon with the hands.*

Banya and (34½) *Tabla.*—The *Banya*, played upon with the left hand, and the *Tabla* (otherwise called the *Dahina*) with the right, are intended to keep time with dancing, singing, or instrumental music. The idea of the pair is taken from the *Mridanga* (36), the *Banya* representing the left and the *Tabla* the right end of that instrument.

Dholaka.—This instrument, which is of modern origin, is generally used to keep time with the *Jatra* (a kind of operatic performance). It is also used by the lower classes to accompany stray songs. The tuning of the *Dholaka* is regulated by the tension of the strings which interweave the ends of the instrument.

Mridanga.—A classical instrument, said to have been devised by the Hindu God Brahma to keep time to one of the war-dances of Máhadova. The instrument derives its name from the fact of its having been made originally of *mrit* (earth). In modern times the instrument is made of wood or metal. A paste of flour is put over one of the ends to deepen the sound.

(2) *Played upon with two sticks.*

Dháka.—A large-sized drum of a very classic origin, said to have been used in the war between Ráma and Rávana in the *Treta Yuga*. The instrument is supported on the shoulder by means of a sling passed round the player's neck, and the only side of it surmounted by a plume is struck. The *Dháka* is played on all occasions in the worship of *Káli, Durga*, and other female manifestations of the Deity, and at the *Charak puja*, or swinging-festival.

(3) *Played upon with the hands.*

Khola.—This instrument is said to be an adaptation from the original *Mridanga*. The *Khola* is used chiefly to accompany *Kirttana* and other sacred songs.

Marddala.—Commonly called the *Madala*; extensively used by the aboriginal tribes of India, such as the Kols, Bhils, Santals, &c. The instrument is evidently a degenerate form of the *Mridanga*.

(*e*)—Trumpet-shaped Instruments.

Nyastaranga.—The *Nyastaranga*, a trumpet-shaped instrument, is placed upon the vocal chords, which produce by vibration a clear ready note upon the intrument. It is believed that no instrument of this description is to be met elsewhere than in India. The *Nyastaranga* (Sanskrit *Upanga*) is extensively used by Hindu musicians in the North-Western Provinces, and particularly at Mathura and Brindaban. Babu Káli Prasanna Banarji, of Calcutta, is one of the best players upon this instrument in Bengal.

(*f*)—European Instruments.

Flute.—Manufactured in imitation of one recovered from the ruins of Pompeii. The specimen exhibited was presented to the exhibitor by Chevalier Victor C. Mahillon, Superintendent of the Royal Conservatory of Music, Brussels.

Flute.—In the shape of a walking-stick, presented to the exhibitor by Brigade-Surgeon J. M. Coates, M.D., Principal, Medical College, Calcutta.

(*g*)—Burmese Instruments.

An Alligator-shaped Guitar.—Presented to the exhibitor by the late King of Burma.

(*h*)—Japanese Instruments.

Drum ...
Flute ...
Gong ...
Guitar ...
} Presented to the exhibitor by H.I.M. the Mikado of Japan.

Besides this collection, there was exhibited a valuable collection of Thibetan and Bhutanese instruments from the Darjiling district, the shape and workmanship of many of which were very curious.

The manufacture of glassware in Bengal and Behar is confined to the city of Patna, where it is carried on by two or three firms. These have brought their productions to a considerable degree of perfection under the advice and guidance of European residents. The demand for articles of Patna manufacture has increased considerably of late years, and the industry may be expected, if judiciously

encouraged, to turn out profitable. The articles made follow for the most part European models, though glass is also manufactured into *hukkas*, *pikdáns*, native lamps, &c. The form of many of the articles is very good and the colours in some cases, especially a bright yellow and a pale and a dark blue, are excellent. The low rate at which these glasswares are sold, and their superiority to any others produced in India, ought to procure them a ready sale. The principal manufacturers are Husain Bakhsh and Miyán Ján, and the best articles produced by them are small flower glass baskets and vases, which, though not free from flaws, are very effective in appearance. Much ingenuity was also displayed in the manner in which hollow spouts had been put into some of the articles exhibited.

The chief locality for the manufacture of stoneware articles is Gaya, whence several good specimens of black stone trays, *suráhis*, cups, &c., with gold ornamentation, were contributed, noticeable among them being a large tray carved with the Bishnupad or foot of Vishnu. The manufacture of pottery in Bengal and Behar is very backward, and nothing is produced which is worthy of remark when compared with the pottery from the North-Western Provinces and Punjab. The best specimens shown were, however, those from Sawán, in the district of Saran. The pottery manufactured at this place is a fairly successful imitation of that produced at Azimgarh in the North-Western Provinces, and consists of vases and other vessels in black and red clay picked out with silver lines. Many of the forms are good, but for these the local potters are indebted to models supplied by the officials of Sawán and other European inhabitants of the district. Rough pottery is produced in several other parts of the province, but the specimens exhibited do not call for any special notice.

Some interesting specimens of a higher class of work were exhibited by the students of the Calcutta School of Art. These consisted principally of vases in terra cotta copied from antique models and ornamented with figures in relief selected from old Hindu models. Those exhibited were few in number but of considerable excellence, and similar articles should, if the manufacture were generally known, from their intrinsic excellence and low price, find a ready sale.

Lacqueredware of any degree of perfection is produced in Birbhum alone, the chief seat of the manufacture being Ilambazár, in the south-east corner of that district.

The process of manufacture is as follows:—The ground is laid on roughly by putting the lac on the article to be lacquered, much in the same manner as a letter is sealed. The article is then held over a charcoal fire, and its surface is rendered even by alternate heating and smoothing with the palm of the hand. The ornamental pattern is then laid on drop by drop and worked while still warm into the desired form with a small pointed piece of bamboo. Lastly the article is again heated and smoothed with the hand and a soft cloth. This work is very effective owing to the brilliancy of the colours employed, the neatness of the workmanship, and the excellent polish taken by the lac. Lacquered-work is very little used by natives of Bengal, and the principal articles made of it are inkstands, pen-trays, boxes, and paper-weights in the form of animals and fruits. The articles exhibited were all of this nature.

As is the case with the pottery, the brass and bell-metal-ware of the Lower Provinces consists entirely of articles for domestic use; and though well adapted for the purposes for which it is intended, it cannot be compared in artistic finish and elegance with the manufacture of other parts of India. The large and interesting collection from all parts of the province exhibited by Babu Táraknáth Parámánik of Simla, Calcutta, has already been noticed. Of the smaller local collections, the most noticeable were those from Murshidábád, Jánjhárpur in the district of Darbhanga, and Sawán in the district of Saran. Of these the specimens from the first-named locality, made mainly of bell-metal, were especially noticeable for the excellence of their finish. The articles exhibited were mainly *lotas*, *jháris*, *thalás*, cups, *pikdáns*, and similar household utensils. Some rough brass-work in the form of ladles and spoons was exhibited from the district of Purniya. Messrs. Burrows, Thomson, Mylne & Co., of Behea, in the district of Sháhábád, exhibited a small but characteristic collection of the brassware in use in that district.

The indigenous iron-work of Bengal is also characterised by an absence of ornamentation and elegance. The articles produced are chiefly *daos*, *khanras*, and other sacrificial knives and ploughshares. Many of these are well made and strong, but differ in no important respect from those manufactured in other provinces. Several specimens were exhibited from various districts, the best being those manufactured at Senhat, in the district of Nadiya. A new industry has been started on a small scale in the district of Burdwan by Prem Chánd

Mistri, of Kánchannagar, who manufactures penknives, garden-knives, and scissors of a creditable character. Some of this man's productions have been supplied by the Superintendent of Stationery for use in Government offices. A small industry for the manufacture of rough table-knives is also being developed in the district of Lohardagga. Some specimens of these were exhibited. In this section were also exhibited a few knives and swords from Sikkim and Nepal, collected by the Deputy Commissioner of Darjiling. Some of these were of superior workmanship.

Baskets, winnowing-sieves, fans, and similar articles, are produced in almost every district in Bengal, and some of those contributed to the Exhibition were very well made. The most noticeable were the rude baskets made by the hill-men of Tipperah and the Chittagong Hill Tracts, and the *siki* baskets, so called from the grass of which they are made, manufactured in the districts of Muzaffarpur, Darbhanga, Monghyr, and Purniya. Many of the latter were remarkable for the neatness of their workmanship and for the taste with which the colours were blended. Basket-making is a common occupation of the ladies of respectable but poor families in Tirhut. In the basketware section were also exhibited some well-made bird-cages of hollow bamboo manufactured at Sawán, in the district of Saran.

Mat manufacture is an industry existing in all parts of the country, and several very good specimens were exhibited, both of the coarser kinds and of the fine and expensive *sitalpati*, so much prized by the wealthy natives of Bengal and Behar. Of the latter, examples of remarkable fineness were exhibited by the Mahárája of Darbhanga and by Nawáb Ahsanulla of Dacca.

The only ornamental wood-carving executed in Bengal is that from the district of Monghyr, a few specimens of which in ebony inlaid with ivory were exhibited by the local Committee. This work has acquired some reputation throughout the province. The woods chiefly used for carving are those of the *Diospyros embryopteris* and the palmyra (*Borassus flabelliformis*). The former of these trees is found in the hilly parts of the district, and the latter is extensively cultivated on the sides of tanks.

Carpet manufacture proper in Bengal is a purely foreign industry, and is carried on only in the jails of Bhágalpur and Hazáribágh. Good specimens of the products of both places were exhibited, of which more particular mention will be

found in the chapter dealing with the Indian annexe. The only form of indigenous carpet-weaving known in the Lower Provinces is the manufacture of *satrinjis*, of which some very good specimens were exhibited, those from Rangpur being perhaps the best of all. These are manufactured chiefly in the village of Kelnabad from cotton produced in the district, the thread being generally spun by the women of the weavers' families. The blue and yellow threads are dyed by the weavers with country indigo and orpiment respectively, and the green and light blue threads are coloured by a mixture of indigo and extracts of certain plants: the red threads are imported.

Some very good specimens of the coarse woollen rugs and clothes of Tibet and Bhutan were exhibited by the Deputy Commissioner of Darjiling, to whom and to Mr. A. W. Paul, B.C.S., the excellence of the collection of Tibetan, Lepcha, and Nepalese articles exhibited was entirely due.

Some very fine specimens of gold-embroidered tapestry were exhibited by the Mahárája of Hatwa in the shape of a *farash* or State carpet, an elephant *jhul*, and a State umbrella. Maháráni Swarnámáyi also exhibited a handsome canopy with hangings, and a richly-embroidered canopy was contributed by the Nawáb of Murshidábád. These articles, which are of high interest and great intrinsic value, were for the most part of foreign manufacture, being produced in the North-Western Provinces. The splendid elephant trappings exhibited by Piru Khán and Mahammad Wazir of Patna have already been noticed.

The principal articles comprised under the head of metal work, other than gold and silver, were the specimens of *bidri*-work. This work, which takes its name from the town of Bidr, in his Highness the Nizam's territories, is carried on at Murshidábád and Purniya. The following account of its history and of the processes employed in its production has been given by Mr. Skrine, lately Officiating Collector of Murshidábád. It was introduced into Murshidábád by an artificer named Mir Iláhi Bakhsh, whose first pupil, Lakshmi, left a son, Manu Lál, by whom various improvements were introduced into the manufacture. At the death of Manu Lál, forty years ago, the industry was in a highly flourishing condition, but it is now perishing from want of encouragement. The manufacture is entirely in the hands of eight Muhammadans, one of whom is a female. These persons

work for wholesale dealers on the piece-work system at the following rates:—

			Rs.	A.	P.
Moulding	...	Per tola	1	8	0
Chasing	...	„	1	0	0
Inlaying	...	„	1	0	0
Polishing	...	„	0	14	0
Colouring	...	„	1	0	0

The artificers generally confine themselves to one or at most two of the processes; but one or two turn out unfinished articles from the raw material. The process is somewhat complicated. Lead, zinc, tin, and copper, in various proportions, are melted and poured into a mould of the required shape. When the metal has perfectly cooled the mould is removed and its contents are fixed to a wheel worked by a treadle, which admits of their being scraped and polished to the necessary degree of smoothness. The pattern to be inlaid is next scratched on the surface with a graver and compasses. The carvings are then executed with a graver of larger size, and with a third the lines are deepened and rounded to receive the inlaid metal. Gold and silver leaf is deftly inserted in the lines thus engraved, pressed well home with a blunt style, and consolidated by hammering until the pattern appears inlaid on the surface of the vessel. The vessel then undergoes a fuller course of polishing on a revolving wheel with fine sand and charcoal and a broadcloth pad. It is now slightly heated, and the colour is laid on where required by means of a composition consisting of saltpetre, sal-ammoniac, blue vitriol, and nitrate of potash finely powdered and mixed in water. After being dried, the article is washed, rubbed, and immersed in oil for 24 hours. When the oil has been rubbed off, the article is complete. The process of manufacture in the Purniya district appears to be in all respects similar. The best specimens exhibited were the *hukkas* and *pikdans* sent by the Nawáb of Murshidábád and by the local Committee of the Purniya district, some of which showed very careful workmanship and great elegance of design. Two or three specimens of work very similar to *bidri* were exhibited from Bankipore.

The exertions of the local Committee of Cuttack induced the makers to send for sale a large and handsome collection of the silver filigree-work for which that district is celebrated.

This work is so well known as to need no description, and much of that exhibited was of singular excellence. It is, however, to be regretted that the dealers, in anticipation apparently of a much greater demand than actually existed, fixed unduly high prices for their wares, and thus prevented many persons, who would otherwise have become purchasers, from buying. What little demand there was was chiefly for brooches, ear-rings, bracelets, and similar comparatively cheap articles. The best specimen of Cuttack work exhibited was a silver *hukka*, and this was closely followed by several very handsome betel-boxes. Work very similar to that produced at Cuttack, though of a somewhat coarser description, and frequently ornamented with gold, is manufactured at Dacca. The specimens exhibited by the manufacturers, however, though very costly and showing much elaboration and care, were not of a nature to command a ready sale. The best specimen of this work in the Exhibition, and perhaps the best to be found in Bengal, was a box, the property of Nawáb Ahsanulla. The workmanship of this was most excellent, and its beauty was much enhanced by the fact that in varnishing it had, instead of turning black, developed a beautiful rosy-brown colour.

The articles exhibited under the head of toys were of a very miscellaneous character. Some of them were toys properly so called, of which many were remarkable both for dexterity of workmanship and low price, while others, such as images of Hindu gods, should scarcely have been classified as toys at all. In the former class the most noticeable were some exceedingly good imitations of fruits from the Burdwan, Dacca, and Saran districts, and a large collection of lacquered wooden toys from Patna closely resembling those manufactured at Banares. The local Committee of the Muzaffarpur district exhibited some good clay figures of native servants, tradesmen, and artificers, and the local Committee of the Gáya district showed some life-like stone images of camels, horses, and other animals. The latter Committee exhibited also a number of the small brass and black stone images of Hindu deities for which that district is famous. Images, some of which resembled in appearance those from Gáya, but made of burnt clay, were contributed from the Cuttack district. The local Committee of the same district also exhibited a number of white and coloured clay images of deities.

Though, with the exception of the silk of Murshidábád and Bankura, tasar silks, and the celebrated muslins of Dacca, the fabrics of Bengal are not of a high order of excellence, the variety exhibited was very remarkable. Notwithstanding the supersession of native cotton fabrics by the cheaper piece-goods of Manchester, which is taking place generally throughout the country, the former still continue to be woven in every district. Some of the most picturesque of the cotton cloths exhibited were those woven by the hill tribes of Tipperah and the Chittagong Hill Tracts. These are strong, wear-resisting fabrics, often remarkable for the skill with which the bright colours employed in them are blended. Another manufacture of considerable interest is that of *kokti* cloth of Darbhanga and Muzaffarpur. This cloth is made from the brown *kokti* cotton, and is of the *khaki* colour worn in the hot weather by the troops in India. Experiments instituted by Major-General Sir Herbert Macpherson, K.C.S.I., commanding the Allahabad Division, are now being made to test the suitability of a cotton similar to the *kokti* for soldiers' clothing. The ordinary cotton manufactures of Bengal consist of *dhutis* and *saris*, the cloths worn by men and women respectively. These vary in price, according to their fineness and the character of the border, from about Re. 1-8 to Rs. 15 the piece. Of all Bengal manufactures none have attained a greater celebrity than the muslins of Dacca, many very fine specimens of which were exhibited by Nawáb Ahsanulla and by the firm of Nitai Charan and Jagabandhu Baisakh. These muslins are woven from thread spun in Dacca, and the difficulty of procuring the best kinds is due rather to the decay of the spinning than of the weaving industry. The demand for expensive fabrics of this kind, for some of which as much as Rs. 150 or Rs. 200 the piece of 10 or 11 yards is asked, is declining, and is now almost confined to a few very wealthy native gentlemen. Many other cotton fabrics besides these fine muslins are produced by the weavers of Dacca, and considerable quantities are exported to other parts of India, and even to Arabia and the Persian Gulf.

Of woollen fabrics the only specimens exhibited were blankets from the Darjiling district and from the neighbouring countries of Sikkim, Nepal, and Tibet. Many of these are remarkable for their excellence of manufacture, strength, and colouring.

The chief silk-producing districts are Murshidábád and Bankura, from both of which many handsome specimens were exhibited. Some very handsome specimens of silk were also sent from the Darjiling district. These were mainly of Chinese origin, and had found their way into the district through Tibet and Sikkim. They consisted of plain and flowered silks of various degrees of fineness and of ornamentation. There were also exhibited a large number of Buddhist priestly vestments from the Sikkim and Darjiling monasteries, many of which were of great beauty. A very large collection of silk was exhibited by Messrs. Hasn Arif & Co., silk-weavers of Ultadanga, near Calcutta. This firm has established large steam-looms, and is now doing a very large trade in coloured silks, most of which are exported to Burma. Tasar silks were exhibited from the districts of Bankura, Bhagalpur, Gáya, and Cuttack.

Under the head of fancy-work were shown some handsome gold embroideries, among which the *jhul*, to which reference has already been made, and a gold saddle-cloth from Patna, a number of ornamental bamboo fans from various parts of the country, and some specimens of Calcutta *chikan*-work, may be enumerated. There is little or no indigenous embroidery in the Lower Provinces of Bengal, and the best embroidery which is executed in the province is of foreign origin, being the work of artists from the North-West Provinces and elsewhere who have settled in Behar. The collection of apparel and haberdashery, though not large, was interesting, comprising, as it did, a few good specimens of Thibetan dresses from Sikkim and Darjiling and an excellent selection of State robes, many of them of considerable antiquity, kindly lent by the late Mahárája of Bettia. Among the former were a sleeveless jacket and wide skirt of the kind worn by Llamas on ordinary occasions, a complete Llama's dress as worn at the annual dancing-festival, and the ordinary dress of a Thibetan gentleman. The Bettia collection was remarkable partly for the richness of the articles comprised in it, some of which were very handsomely embroidered with pearls and jewels, and partly owing to the fact that some of the robes exhibited were of kinds and shapes which are now no longer worn.

The more valuable of the jewels and personal ornaments, which were placed for safe custody in the jewel-room, have already been noticed. Besides these, there was exhibited in the Bengal Court a collection of considerable interest

and value of Darjiling and Thibetan jewelry and ornaments, both in gold and silver, the specimens comprised in which will be found enumerated in the catalogue in Volume II. In the Bengal Court were also displayed the very numerous specimens of filigree-work, both for personal and household ornaments, contributed by the silversmiths of Cuttack, which have been already noticed.

Of the commoner kinds of ornaments not coming under the head of jewelry, a considerable number were exhibited, including specimens of shell bracelets from Dacca and of the ordinary bell-metal and brass ornaments worn by the lower classes of women throughout the country. Messrs. Burrows, Thomson, and Mylne of Behea kindly contributed a very complete representative collection of this class of ornament from Shahabad.

CALCUTTA COURT.

The portion of the Exhibition buildings assigned to Calcutta was the northern half of the main building situated on the maidan side of Chowringhee road. The space so allotted covered 14,400 feet, being 200 feet in length and 72 feet in width, divided by two rows of massive iron columns into a central nave and two side aisles, each aisle being again divided by the columns into ten bays. The entire arrangement of the allotments of space, the laying out of the Court, and the decorations, were made over to a local Committee, and to a Sub-Committee of that body was delegated the actual superintendence and management of the Court. The public of Calcutta subscribed the handsome sum of Rs. 11,000 for decorative purposes, and the appearance of the Court on the opening day amply testified to the artistic taste and skill of the designer and the energy and untiring labour of those to whom the actual work had been entrusted.

The following description will give some idea of the mode of decoration adopted. The columns supporting the roof were painted deep olive green, the broad bands and raised floriated capitals and bases being relieved with bright gold. The spaces between the columns were filled in, from a height of about twenty feet from the ground, with alternated saracenic and moresque arches. The flat part of these arches, as well as the clerestory walls and under-surfaces of the roof lights, were painted light blue, and the architraves, timbers, and mouldings dark olive green, lined with gold. In the spaces between the diamond-shaped lights above the arches on the clerestory

were placed shields emblazoned with the arms and mottoes of twenty-two of the Governors and Viceroys of India, from Job Charnock, the founder of Calcutta, to the Marquis of Ripon. Below these, depending from the centre of each arch, were suspended alternately blue and crimson silken banners bearing the Star of India and the arms of the Knights of that Order; while the Royal banner, crossed by the label of his Royal Highness the Duke of Connaught, hung from the centre tie-rod. The pillars and walls were gay with trophies of Oriental shields, spears, and flags of every nationality, typical of the cosmopolitan character of the population of Calcutta.

The northern end of the annexe was occupied by a massive model of a Hindu temple in the neighbourhood of Calcutta, the exit being through the centre gateway, a copy of a very ancient Hindu structure. The whole was elaborately moulded and carved in wood painted a deep stone colour, the floriated mouldings, borders and bosses, including the massive elephants' heads and tigers' masks in high relief, being heavily gilt. The recesses in each side were occupied by copies of ancient sculptured figures of *Bhagirathi* and *Prithwi Devi*—the incarnation of the Ganges and the goddess of the earth—fairies and Sanyasi *fakirs*, while the head and bust of an elaborately-decorated Hindu goddess occupied the centre niche. This characteristic structure, as well as the whole of the decorations of the Court, were designed by Mr. R. C. Sterndale, of Calcutta, and were carried out under his supervision by Messrs. C. Lazarus and Co.

The entrance to the Court was spanned by a light arch springing from the heads of the pillars, and bearing the arms of the town of Calcutta, with their characteristic supporters,—two adjutants and motto "*Per Ardua Stabilis Esto.*"

In point of richness of colouring and general effect, the decoration of this Court contrasted well with the adjoining Indian Courts, which, with their wealth of barbaric splendour in gold and silver, steel armour, strange weapons, and masses of gorgeous colour in the rich drapings of valuable carpets, shawls, and *kinkabs*, made up a *toute ensemble* extremely handsome and effective.

The centre of the nave was occupied by a row of show-cases and trophies, commencing with a crystal fountain exhibited by Messrs. Osler and Company, and ending with a well-selected display of sporting and other arms by Messrs. Manton and Company. On either side a broad passage gave facilities for traffic. In the centre of the Court, on a space

laid with Messrs. Burn and Company's encaustic tiles, seats were provided for the accommodation of visitors.

The exhibits in the Calcutta Court comprised two distinct classes—imported articles and articles manufactured in the country. Some firms only exhibited goods which are imported from abroad, and of which the manufacture has not been attempted on a large scale in India, as for instance glassware, musical instruments, guns, sewing-machines, &c.; while others exhibited goods manufactured in India side by side with goods of the same description imported from abroad. It is satisfactory to note that in many cases the juries pronounced the goods made in India to be equal in quality to those that were imported.

Messrs. Osler & Co.'s exhibit of glassware was a good example of imported goods. It consisted of a large collection of chandeliers, candelabra, glass fountains, table glassware, glass furniture, lamps, decorative and art pottery, Venetian and other Foreign and British ornamental glassware, and Venetian mirrors, which are imported in considerable quantities by this firm to meet the demands of rich natives. Indian manufacture of glass is still in its infancy, and no native-made glassware can be obtained for household purposes. Among the exhibits of this firm the crystal glass fountain, already referred to, deserves special mention. It stood in the centre of the transept. The fountain rested on a white marble colonnade in the centre of a small basin of water, in which were placed water-plants and gold-fish; the basin was surrounded by a glass balustrading. It was elaborated in large pieces throughout; the basement being made up of segments forming an octagon; the centre shaft consisting of long and narrow prisms; and the large dish, 13 feet in circumference, being constructed also in segments, so carefully joined as to give the appearance of a single piece. The upper portion consisted of two smaller dishes and a vase-shaped finial holding the principal jets. Some very handsome crystal and coloured chandeliers were also shown, of which that placed in the transept was perhaps the most remarkable. It was somewhat similar in style to the fountain, and upheld 91 lights. The glass furniture was, however, the centre of attraction in this part of the Court to natives. It consisted of a bed, tables, sofas, as well as mirrors and other glass articles of ordinary use, and, in fact, constituted a complete set of drawing and bed-room furniture. Messrs. Osler & Co. also exhibited porcelain and pottery,

including specimens from the Worcester Company, Minton, Copeland, Doulton, and some continental potteriés. The only work of this kind made in Bengal and exhibited in the Calcutta Court was that by Messrs. Burn & Co. This, in its more finished forms, would not bear comparison with the imported ware, though the pottery and earthenware was awarded a certificate of a gold medal as an Indian industry. The larger and coarser ware, such as drainage-pipes, disconnecting-traps, tiles, terra cotta, and firebricks, was, however, remarkably good.

A collection of Japanese and Chinese goods was exhibited by Messrs. Kwong Yeu Sing & Co., who, with the aid of Chinese perforated screens and inlaid cabinets, formed in the space between two pillars of the side aisle a separate room for themselves. Some valuable screens, cabinets, and vases were shown, as well as the cheaper articles so largely used for decorative purposes. One certificate of a gold medal, two silver medals, a bronze medal, and a third-class certificate, were awarded to this firm.

Messrs. Harold & Co. sent a collection of musical instruments, comprising manufactures by Messrs. Scheidmayer and Shone, Mason and Hamlin, and other firms. They were awarded one silver and two bronze medals.

Messrs. Manton & Co. and Rodda & Co. exhibited implements of the chase, firearms, ammunition, &c., both imported and of Indian make. The exhibits of the former firm were contained in a large upright case, and consisted of a collection of weapons of every known pattern, from the smallest rook rifle to the huge four-bore elephant rifle. Pistols, revolvers, hunting and sporting-knives, and in fact every requisite for the field, made the case complete. Two silver medals were awarded for these exhibits. Goods manufactured entirely in their local workshops were contained in a smaller case. They comprised bullet-moulds, powder and shot-measures, nipple-keys, cleaning-rods, gun implements, hogspears, and other apparatus, such as richly embossed and mounted swords and daggers, besides a double-barrelled breech-loading gun, which, with the exception of the barrels, was made by natives. For this exhibit of locally-manufactured goods a silver medal was awarded.

Messrs. Rodda and Co.'s exhibit was also very handsome, comprising the arms, &c., mentioned in the catalogue in Volume II. An award of a silver medal was granted to the collection.

Sewing-machines were exhibited by Messrs. Francis, Harrison, Hathaway and Co. They were manufactured by Messrs. Wheeler and Wilson, to whom a certificate of a gold medal was awarded. The Singer Manufacturing Co., Limited, were awarded two bronze medals.

In the remaining classes Indian-made articles were nearly equal, if not superior, to the imported articles.

In fine arts a certificate of a gold medal and a silver medal was gained by the Calcutta Art Studio, who exhibited a collection of paintings and drawings entirely the work of natives; and a certificate of a gold medal to Messrs. Bourne and Shepherd for photographs of people and landscapes.

Scientific instruments, both imported and native-made, were exhibited. Of the former class the meteorological and other instruments shown by Messrs. Solomon and Co., and the surveying and drawing-instruments by Messrs. Newman and Co., received a certificate of a gold medal, four bronze medals, and two silver medals respectively; while the telephones of native make shown by Mr. James Murray were awarded a silver medal. Babu Wooma Charn Karmoker received a similar award for bullion weighing-scales and a chemical balance made under his supervision and by native workmen.

Under the head of health a very good show was made, and a large number of awards were obtained. The most noteworthy were the exhibits by Dr. Waldie, Babu Preolal Dey, Messrs. Tarra Prassana Roy and Ram Chandra Dutta, Messrs. Bathgate Co., and Babu Tincourie Nundon. They were all of native manufacture. The first three obtained certificates of a gold medal; the last two a silver medal each.

In furniture again, with the exception of Messrs. Osler and Co.'s glass furniture, which has been mentioned before, the exhibits were almost entirely of native manufacture, and the awards gained were very high. Messrs. Lazarus and Co. were awarded two gold medals, Messrs. Deschamps a gold medal and two bronze medals, Edmond and Co. a silver medal, Tomlin and Co. and Dunn and Co. bronze medals respectively. A prominent feature in this class was a billiard-table by Messrs. Lazarus & Co. made of solid mahogany with a $1\frac{1}{2}''$ slate bed and fitted with that firm's combination express cushions. The table was supported by eight richly-carved massive legs surmounted by carved heads, upon which a carved foliage frieze formed the cushion

sides. The design of the table was peculiar, as the cushion frames extended continuously along the entire edge of the table, pocket-plates being entirely dispensed with. It was awarded a certificate of a gold medal, the only award of this class given to Indian-made billiard tables.

* The jewelry and more valuable articles exhibited by Messrs. Hamilton & Co. were, though they belonged to the Calcutta Court, placed for greater security in the Jewelry Court. Their exhibit in the Calcutta Court included collections of bronzes, Sèvres vases, marble and bronze columns, and other works of art. Among them may be mentioned an eight-day perpetual calendar clock, with double chimes, chiming the quarter-hours on eight bells. At every hour a figure of a blacksmith comes out of the door on the left, strikes the gong, and retires, and a musical-box is played. This clock shows days of the week and month, the month of the year, and adjusts itself for leap years and odd days. A silver medal was awarded for this exhibit, and for their other exhibits a certificate of a gold medal and three silver medals. The jewelry to which the certificate of a gold medal was granted is stated by the firm to have been made by native workmen under European supervision. The only exhibit of jewelry made entirely by native workmen and shown in connection with the Calcutta Court was that of Buddree Dass, Rai Bahadur, to which a certificate of a gold medal was awarded. This exhibit was very different in style to that of Messrs. Hamilton & Co., and though in many cases it was at variance with European taste, it showed occasionally a wealth of design which could not be surpassed.

In articles of personal wear or use a very large show was made. It is only possible to mention those exhibits to which the highest award was made and to refer the reader to the catalogue of the Court in Volume II. Messrs. Moore & Co. exhibited both imported and native-made clothing; Messrs. Watts & Co. boots of native manufacture; Messrs. Badham Brothers native-made shirts; Messrs. Phelps & Co. and Ranken & Co. native-made embroidered garments for native chiefs; and Mr. Alexander Cumming an imported court-dress. The native manufactures were made under European supervision, and, with the exception of Messrs. Moore & Co.'s costumes of Indian fabrics, were as a rule of imported materials.

* Messrs. Hamilton & Co.'s exhibits in the Jewelry Court are mentioned on page 708, Volume II.

In raw products and manufactures therefrom Indian manufactures were predominant, comparatively few imported articles being exhibited. Messrs. Osler & Co., as agents to Messrs. James and Thomas & Co. of Exeter, showed Alexandra oil for lamps, to which a certificate of a gold medal was granted. A bronze medal was granted to Mr. H. Fornaro for artificial stone made in India. Messrs. Harton & Co. were awarded two gold medals for hawsers, ropes, and lines of different kinds, and a fifth-class certificate for sea-fishing lines, and Messrs. Ahmuty & Co. two silver medals for a similar exhibit. These were in each case of native manufacture. The only cigars in this Court which obtained an award were the Burma cigars shown by Messrs. Ram Chander Ghose & Co. They received an award of a certificate of a gold medal. Messrs. Cuthbertson and Harper were awarded a bronze medal for harness, and Messrs. Monteith & Co. and Messrs. Watts & Co. were both awarded silver medals. That shown by the latter was stated to be entirely made by natives under European supervision. Messrs. Watts & Co. and Cuthbertson and Harper each showed a very handsome gold embroidered saddle-cloth, to which a certificate of a gold medal was granted.

The carriages made by Calcutta firms, which it was originally intended to place in this Court, were finally located in a contiguous part of the annexe, and may be mentioned here, though they are catalogued under the head of Miscellaneous—India, in Volume II. They were all made by natives under European supervision. Messrs. Dykes & Co. and Steuart & Co. head the list with a certificate of a gold medal for a C and underspring landau and a miniature brougham respectively. In addition, Messrs. Dykes & Co. were awarded two silver and two bronze medals and a third-class certificate; Messrs. Steuart & Co. two silver and one bronze medals; Messrs. Deschamps & Co. two bronze medals; and Messrs. Munro, Don & Co. a bronze medal and a fourth-class certificate.

In food-products a large number of awards were gained. The following exhibitors received certificates of gold medals, mainly for articles of Indian origin or manufacture—Messrs. Ahmuty & Co., Baboo Preolall Dey, Messrs. Dutta Brothers & Co., the Great Eastern Hotel Co., Limited, Messrs. Newson & Co., and Mr. Federico Peliti.

CHAPTER IX.

Bombay.

ARTWARE COLLECTION.

In addition to the contributions from the presidency proper, the Bombay Court included those from the states of Baroda, Katch, and Kathiawar, and from Aden, and comprised loan, purchased, and sale exhibits.

By far the greater portion of the collection was composed of loan and purchased exhibits. The articles for sale priced at Rs. 30 and under found ready purchasers, especially Bombay pottery and weapons from Katch. Most of the articles for sale priced above this sum remained unsold. It is worthy of note that nearly all the buyers were Europeans.

In the arrangement of the Court two things had to be considered: (1) the display of the articles to the best advantage, (2) the provision of sufficient room for the public to circulate. These were both matters of difficulty within the limited space allotted, and it was found impossible to avoid overcrowding some of the exhibits.

In order to give additional wall space, two partitions with doorways were constructed, dividing the Court from the Punjab and Central India Courts.

As a good background to the articles placed against them, the walls were coloured with Indian red. No attempt was made at decoration in the ordinary acceptation of the term, as it was considered that the less the surfaces of the wall spaces were disturbed by extraneous ornamentation, the better for the proper display of the exhibits; but advantage was taken of the many coloured textiles, which lend themselves favourably to decoration, for the embellishment of the Court. Printed cotton cloths (*jajams*) were stretched across the ceilings; carpets were suspended from the tie-beams; silk and cotton *saḍis* and carpets were festooned in the bays facing the nave, and a border of printed cotton *saḍis* ran along the top of the dwarf wall which enclosed three sides of the Court.

The more valuable specimens of the collection were put into glass cases. The available space in the nave was occupied by three trophies for the display of pottery.

The collection in the Court was a good representative one, as showing the present condition of the art industries of the presidency; and it may be said that every industry was fairly represented.

In the fine art section were six large pictures, copies of wall paintings from the Buddhist cave at Ajanta, executed by a staff of trained students from the School of Art, Bombay.

Although sculpture has never risen to a very high order in India, still there are indications that it is capable of development. The two busts of the late and present Diwáns of Bháonagar, lent by his Highness the Thákur Sáhib and executed by Vállá Hirá, are excellent specimens of sculpture portraiture. The three life-size figures of Gujaráthis, made of wood, lent by his Highness the Gaekwar of Barodá, although partaking somewhat of the wax-work type, were, owing to their life-like appearance, immensely admired by the native visitors to the Exhibition. Puna figures, distinguished for their truthful modelling and for their life-like representation of the people of the country, found a fitting place in the Court. Although somewhat resembling Lucknow figures, these differ from them in that the clothes in the Puna figures are of actual cloth, whereas in the Lucknow figures the clothes are modelled. The annual outturn of Puna figures is valued by the municipality at about Rs. 10,000.

In the educational section was exhibited a complete collection showing the progress of the students through the various grades of instruction in art as carried out in the Sir Jamsetji Jijibhai School of Art, Bombay.

The show of musical instruments was very limited, being confined to a *sundari* (a stringed instrument resembling a lyre) and a *bin* elaborately painted and varnished, lent by his Highness the Jám Sáhib of Jamnagar; a *sitar*, lent by his Highness the Jam Sahabah of Navánagar; and a *tabla* and *báhya* (drums), contributed by the Central Committee, Baroda.

Of art furniture the contribution was confined to some cabinets exhibited by the East India Art Manufacturing Company in Bombay, designed by Mr. Wimbridge; a cabinet, sideboard, overmantels, and tables from the Ratnagiri School of Industry; and an elaborately-carved cabinet in teak, contributed by Mr. Magganbhái Hattising, the manager

of Mr. de Forest's establishment at Ahmadábád. The productions from these establishments were European rather than Indian in feeling. Their general treatment was in the style of the architecture of Ahmadábád with perforated floriated panels. Besides there were exhibited a painted lacquered cabinet from Sávántvádi; a bedstead and stools painted, gilded, and varnished, lent by the Gondal state, Káthiáwár; a carved black wood chair and flower-stand from Messrs. Ludhá Ebrahim & Co., Bombay; and a carved black wood chair by Mistri Keshav Lávji of Baroda. The latter had a novel piece of mechanism for raising or lowering the sitter at will.

The furniture turned out by the East India Art Manufacturing Company was characterised by superior finish and good joinery. The demand for this furniture is considerable, it having superseded to a great measure the heavy, badly-fitted, clumsily-designed Bombay black wood furniture.

The activity of the Ratnagiri School of Industry may be estimated from the fact that it turned out over Rs. 50,000 worth of furniture last year, besides an immense amount of wood-work for the Public Works Department.

Wood-carving, though the former extent of its prevalence throughout the presidency of Bombay is testified by the carved wooden houses to be found in nearly every town, is now almost confined to Ahmadábád, Surat, and Kanara. A specimen of architectural wood-carving, which proved one of the most attractive features in the Bombay Court, was a portion of the front of a house from Baroda, with doors from Dabhai, exhibited by his Highness the Gaekwar. The specimen was taken from an old house belonging to the Diwán family of the Nawáb of Barodá, built before the conquest of Gujráth by the Maráthás.

With the exception of a few carvers, who earned a precarious living by carving elaborate flower-stands, picture-frames, card-cases, and other small articles in black wood, to meet an European demand, the art of wood-carving was till recently almost extinct in Ahmadábád; but since Mr. Lockwood de Forest, an American gentleman, has started an establishment there for the construction of carved furniture, a revival has taken place. The establishment, which employs about one hundred workmen, is under the management of Mr. Magganbhái Hattising. Its products are for the most part exported to New York. In addition to the cabinet already noticed from this establishment, a carved box in

teak, a picture-frame, and an inkstand in black wood, were contributed. These were remarkable for their delicate carving.

Wood-carving for architectural purposes is largely carried on at Surat, where there are several workshops, from which doors, shutters, ceilings, and cupboards may be purchased ready made. A specimen of one of these doors, remarkable for its cheapness as well as for the bold and vigorous character of its carving, was shown. Of the finer and more delicate kind of carving and inlay, specimens known as "Surat boxes" were exhibited. A large collection of this class of work was contributed for sale from Billimora, in the Baroda state. From Nasik, a town famous for its old carved timber houses, one specimen in teak, copied from one of the windows in the Hingle's váda by the only carver to be found in the town, was purchased for the Exhibition. A very good specimen in the form of a carved shutter was contributed by the Katch Council of Administration. From the Kanara district some very excellent specimens, comprising boxes, panels, *chauri* handles, card-cases, paper-knives, and other nicknacks in carved sandal wood illustrating scenes from the Rámáyana, Mahábhárata, and Puranas, were shown. This class of work is identical in character with that contributed from the adjoining territory of Mysore.

Of glassware the very small quantity that is produced in the presidency is manufactured principally at Kapadranj, in the Kaira district. It is remarkable for its iridescent properties and good colour, and resembles antique and old venetian glass. A large collection of very quaint and beautiful shaped little vessels and cups was contributed by Mr. Spry, the Collector of Kaira, and by Rao Bahadur Chuni Lal Veru Lal. Glass bangles are made at Chinchni, near Tarapur, in the Mahim taluka of the Thana Collectorate, of which specimens were shown.

A good selection of Sind pottery was procured for the Exhibition, comprising some very beautiful specimens, good in design and effective in colouring, ranging from light golden yellow to a rich dark brown. The large vases and plaques from Halla show that the potters are capable of turning out pieces of extraordinary size. If, however, they wish to increase their trade, they must improve in their mode of packing, for owing to careless packing a quantity of the ware was received broken. From the pottery works in

Bombay, which are no longer connected with the School of Art, but are under the direction of Mr. Terry, a large collection was exhibited, which found a ready sale; the forms and colouring being more numerous and exhibiting more variety than those of the Sind ware. The adaptation to the ware of some of the ornamental decoration from the Ajanta caves was most effective. A few pieces in imitation of Sind ware were contributed from Bhaonagar. Some black varnished pottery, similar to that made at Azimgarh, with painted silver and gilt ornamentation, was sent from Pattan, in the Baroda state. This ware, though rough in texture, is very effective for decorative purposes.

A good collection of Cambay stones cut and polished into plaques for jewel-boxes and brooches, and fashioned into armlets, knife-handles, paper-knives, toys, paper-weights, &c., was contributed by the Cambay Darbar. There are about 100 merchants at Cambay who deal in agates, and from 2,500 to 3,000 artisans are employed, whose income averages from Rs. 7 to Rs. 60 a month. The annual outturn ranges from two to three lakhs of rupees, the Darbar imposing 5 per cent. export duty on the articles.

Brass and copper vessels are used so largely for domestic and religious purposes, both by Hindus and Muhammadans, that they are in great demand. Nasik and Puna are well known for their copper and brassware, and a good selection from these cities was secured for the Exhibition. The Nasik vessels are preferred to those of Puna owing to their superior finish. A complete set of vessels used for religious purposes was shown from the former city. The vessels are either cast and turned on the lathe or beaten into shape on the anvil by the hammer, and are now seldom chased and engraved with figure and floriated designs, except in *repoussé* to meet an European demand. Nasik being a place of pilgrimage, many Hindus visit it for religious purposes, and on their return take with them a number of copper and brass pots as presents to relatives and friends. At the thread and marriage ceremonies among Hindus of the higher classes, a set of copper, brass, or silver vessels is given to the boy who is to wear the sacred thread, or to the bridegroom; so that a great demand is thus created annually, and the industry is well supported. Puna brass and copper-workers, of whom there are from 3,000 to 4,000, have of late commenced to imitate Nasik work. Rough pots used for culinary purposes, and brass

figures, are largely made at Puna, the annual outturn amounting in value to about 25 lakhs of rupees. The din and clanking of hammers in the coppersmiths' bazar fairly indicates the flourishing condition of the trade in Bombay itself. At Shikarpur and Larkhana, in Sind, a large trade, amounting to Rs. 1,29,350 a year, is carried on, the workers being Muhammadans and Hindus. A considerable collection of brass and copper vessels, some being electro-plated for domestic purposes, was contributed by the Baroda, Bháonagar, and Gondal Darbars.

The manufacture of Indian arms is now confined almost entirely to the supply of the demand created by Collectors and others, who use them for decorative purposes on the walls of entrance-halls or drawing-rooms. Modern arms of quaint and varied shapes, such as *jambias*, *khanjirs*, *guptis*, *katárs*, *dháls*, and *tábars*, copied from the standard patterns in use from time immemorial, are principally made in Katch. A large collection of these was exhibited.

His Highness Mir Ali Murád Khán Tálpur, of Khairpur, contributed a very handsome sword and knife with enamelled gold and silver mounting, and from his Highness the Gaekwar of Baroda were received specimens of daggers, swords, and armour.

Bamboo baskets lined with cloth and decorated with lacquer, *khaskhas* baskets, boxes, and fans ornamented with lace, beetle's wings, and peacock's feathers, are specialities of Sávantvádi, and characteristic specimens were exhibited by the chief of this state. At Puna the industry is carried on to a small extent. At the Yerrowda, Thana, and Ratnagiri jails baskets, chairs, and other articles of cane, are made; and in the city of Bombay itself several Chinamen carry on an extensive business in basket-work.

Ivory-carving is practised only to a small extent in the Bombay presidency. Ivory figures are roughly carved in Bombay and Surat by Parsi work-box makers. An excellent specimen of ivory-carving in the form of a jewel-box was sent from Katch. His Highness the Gaekwar of Baroda also contributed some good specimens, but it is questionable, whether these were the productions of the Bombay presidency.

A large collection of lacqueredware was exhibited illustrative of the several varieties produced in the presidency, from the small wooden toys of Surat and the fruits of Gokák

to the rich lacquered-work of Hyderabad, in Sind, with its hunting scenes in outline delicately tinted on a rich brown ground, and the brilliantly-coloured lacquer of Sávantwádi illustrating subjects from Hindu mythology.

Viziadrug, Jaitápur, and Málvan, in the Ratnágiri district, contain a few families acquainted with the art of shaping bisons' horns into cups, plates, animals, and caskets. Some specimens of this art were shown.

Carpets are manufactured in the jails only of the presidency, such as the Yerrowda jail near Puna, Thana, and Karachi. Specimens of woollen pile carpets of good design and colour, copied from some old Persian originals discovered in the Asár Mahál, Bijápur, were shown from the first-named jail. A few specimens of *daris*, or cotton carpets, were also exhibited.

To the liberality of his Highness the Thákur Sáhib of Bháonagar the Bombay Court owed one of its most striking contributions in the display of a portion of a sculptured marble *chhatri* or cenotaph designed by Mr. Griffiths, Superintendent of the Bombay School of Art, and erected by his Highness in memory of his late wife. The detail of the perforated window was elaborated by Ranmal Lira of the Bombay Art School, and the carving was executed by Valla Hira, a former student and now head *mistri* to the Bháonagar state. The structure is being erected under the superintendence of Mr. R. Proctor Sims, M.I.C.E., the state engineer, Bháonagar. The blocks of marble for the work are imported from Italy.

In addition to the collection shown of ornaments for personal adornment was a large collection which fairly illustrated the present state of this industry in the presidency. Vases, cups, *tazzas*, tea-services in *repoussé* work, which were formerly made only in Katch, can now be had in Bombay, Puna, Ahmadabad, and Ahmadnagar, where Katch workmen are employed; but the increase in the demand for silver-work has led to a corresponding deterioration in its artistic qualities. A large collection of silver articles in *repoussé* was contributed by the Katch Darbar, and specimens from Baroda procured by the Central Committee, from Messrs. Cursetjee and Sons of Ahmadnagar, from Messrs. Jaffer Subman and Company, and Mr. Terry of Bombay, and from Mr. Maganbhái Hattising of Ahmadábad, were sent for sale. A silver teapot shown by the latter was constructed on the lines of the native *luta*.

Aden contributed a collection of silver ornaments worn by Arab and Somáli women deserving of special notice. The work is massive," and the execution large and bold in treatment; the character of the ornamentation showing a curious blending of Indian and Arabic forms. A belt with bells, a necklace in which large amber beads were introduced, and some armlets and bangles, were splendid specimens of barbaric treatment.

It may be interesting to know that the total outturn of silverware from Katch for European use is stated to be from Rs. 5,000 to Rs. 8,000 a year, while the outturn of gold and silver ornaments for native use is as much as four or five lakhs of rupees.

A complete collection in brass, in imitation of the originals in gold and silver, of ornaments worn by natives, was shown from Puna.

As the Hindus clothe themselves nearly entirely with cotton fabrics, a very extensive industry is carried on throughout the presidency in manufacturing the several articles of dress worn both by males and females, the principal being *sáḍis*, (women's garments), *khans* (bodice pieces), turbans and *dhutis* (men's waist-cloths). Ahmadábád is noted for *sáḍis* and *dhutis*, Yeola for *sáḍis* and turbans, Sholapur and Ahmadnagar for *sáḍis* and *khans*, and Karachi for *lungis* (scarves), *susis* (striped fabrics), and *sarposh* (bed-covers). Cotton fabrics are decorated in two ways, either by weaving the designs in the piece or by hand-printing in one or more colours by means of wooden blocks. A variety of specimens of both methods were exhibited. Cotton-printing is principally carried on at Ahmadábád, Kaira, Baroda, Broach, Malegáon, Katch, and some of the states of Káthiáwár, where *sáḍis*, *kholios* (covering for *razais*), and *jájams*, are printed. The printing of *sáḍis* and *kholios* is on fine calico, while that of *jájams* is on a coarser material resembling canvas (*dangri*), which readily receives the dye. Four very good specimens of *jájams* were shown,—one from Limadi near Ahmadábád, and another from Broach; a third was lent by his Highness the Thákur Sáhib of Bháonagar, and a fourth was the contribution of the Katch Darbar. Both the latter were admirable in design and colour. *Jájams* occupy in the native house the place held by the carpet in that of the European. They are well adapted for ceiling decoration, and are now being introduced for that purpose.

Most of the native prints are unglazed, but an exception was found in some *sáḍis*. contributed by Colonel Charles Wodehouse, the Political Agent, Mahi Kanta, which were very highly glazed. These *sáḍis*, which are sold at Re. 1 each, are made by the Bhawsar community of Pithapur, a town in the Mahi Kanta. They are favourites with the women of Siam, and about three lakhs are exported to that kingdom annually. A large number is also sold by retail in Gujráth villages.

Silk fabrics, either plain or mixed with gold thread, chiefly woven at Yeolá, Puna, Ahmadabad, and Surat, and silk fabrics without any admixture of gold thread, woven at Thana, Saswad, Belgaum, Revadanda in Kolaba, and Sholapur, were exhibited.

The silk manufacture of Yeola is one of the most important of Nasik industries, and is estimated to support 4,000 families. *Paithanis* (silk garbs for women), *pitambars* (silk cloths or sacred cloths for men and women), *lugdis* (silk *sádis*), *dupattás* (scarves for women), and *khans* (bodice-pieces), are in considerable demand among the higher classes of natives, not only among the wealthy, who daily wear such fabrics, but among those who appear in them only on festive occasions. At Puna likewise there exists a large silk-weaving industry, which has to a great extent competed successfully with Yeola. Thana, which used to be noted for its silks, possesses now only twelve looms. Specimens of *bandhana* or knot-dyeing in silk, where the pattern is produced by knotting the material before steeping the silk in the vat, were shown.

The display under the head of mixed fabrics was remarkable for the rich gorgeous effect produced by weaving cotton, silk, gold, and silver threads into fabrics rich in artistic qualities, of harmonious colouring, good design, and exquisite finish.

There are six varieties of mixed fabrics—

(1) Cotton with silk, used for *dhutis*, *sáḍis*, and *khans*; (2) cotton with gold thread, used for *shelás*, *shálus*, and *duppatás*; (3) silk and cotton (*garbhasuti*), where the warp is cotton and the weft silk, used for *sáḍis* and *khans*; (4) silk and cotton in the body of the fabric with gold borders and ends (*garbhasuti fari kinár*), also used for *sáḍis* and *khans*; (5) silk fabrics with gold border (*reshmi fari kinár*), such as *pitámbars* and *paithanis*; and (6) silk and gold fabrics, in which gold is introduced in the body

of the textile material. This class includes *kinkhábs*, *khands*, and *bharjaris*, and *mandili sáḍis* and *khans*, as well as the borders and bands, known as *kor*, *kinár*, *tás*, *lappo*, *phit pallab*, and *golá*.

Kinkháb, which is manufactured at Ahmadábad and Surat, is a thick silk fabric with gold designs worked into it. *Khands* differ from *kinkhábs* in being very much thinner. In weaving *kinkháb* six layers of fibres are required, while in weaving *khand* only two layers are used. Borders, *kors*, and *kinárs*, are long strips of silk with different designs worked into them in gold thread, their breadth ranging from half an inch to six inches. *Phits* are gold-bordered clothes of which the warp only is silk. *Lappo*, *pallab*, and *golá*, are also woven with gold thread for the weft and silk for the warp. The two former are used as the ends of *sáḍis*, and the latter for decorating bodices and other garments. Specimens of all these were fully represented.

The tarnishing of the gold and silver thread when exposed to the European climate, and the want of the artisan whose business it is to reburnish these beautiful fabrics by beating them with a wooden mallet, render the rise of an European demand for them very doubtful. Pure silk *kinkhábs*, however, in which no metal is used, might be suitably introduced for the trimming of ladies' dresses, for hangings, and for furniture coverings.

His Highness the Jám Sáhib of Jámnagar sent some exceedingly choice and valuable scarves and turbans, heavily worked in gold thread, of the kinds worn by princes and rich native gentlemen.

In the silks and turbans of Yeola, the *shelas* of Puna, the *kinkhábs*, *dupattas*, *khands*, and borders of Ahmadábád and Surat, gold and silver thread is largely introduced, its manufacture being a special industry, employing some hundreds of hands. The wonderful ductility of gold is seen in its manufacture, in the course of which a bar of silver covered with gold leaf is gradually drawn out to a silver thread still coated with the gold.

Specimens of *suznis* or bed-covers woven in chequered patterns of cotton and silk, the manufacture of which is a specialty of Broach, were shown.

An interesting collection of embroidery characteristic of the work carried on at Shikárpur and Hyderábád in Sind, at Kaṭch, Surat, and Bombay, was shown. This was executed in various materials, such as silk on cotton, as

the *suznis* of Shikárpur; silk on silk, as the *odhne*, or square sheet worn by the women of Katch; silk, gold, and silver thread used singly or together on cloth or satin for various articles of dress, and also for table-cloths, cozies, cushion-covers, &c. This last kind of work is chiefly executed at Hyderábád. Another form of embroidery, extensively made for caps, coats, *masnads*, saddle-cloths, &c., heavy in character, and called *bharat kám* (literally, work filled in), from the fact that the ornament is first worked in relief in a coarse cotton thread and afterwards covered with gold or silver thread, was also shown. A large quantity of this description of embroidery is manufactured by Dáudbhái in Kalbádevi road, Bombay, who employs a large number of workmen, coming principally from Delhi. A species of embroidery made of gold and silver spangles and twisted gold wire was exhibited by his Highness the Rája Sáhib of Dhrángdra, in Káthiáwar.

Most of the specimens sent from Hyderábád in Sind showed decided deterioration in design, colour, and mode of execution. The designs were ill composed, a want of balance was observable in the distribution of the masses, the colouring was staring owing to the introduction of aniline dyes, and the execution, when compared with that of older work, was poor. The round embroidered cushion-covers in gold, silver, and silver and gold on black cloth, must however be excepted from this censure. These, and especially two examples in which an admixture of silver and gold was happily carried out, were beautiful specimens of embroidery.

Two large oblong pieces of effective embroideries from Shikarpur, worked in silk on a coarse cotton ground with discs in red and interspaces filled with foliated work, taken from specimens brought by traders from Bukhara, were of Tartar origin, and testified to the manner in which the arts in Sind are influenced by those of Central Asia.

Leather is largely employed throughout the presidency for shoes, sandals, pouches, belts, *chárgals* (water-bottles), and book-covers, all of which are more or less ornamented by stamping, perforating, and embroidery. Several specimens of leather-work were exhibited, such as *chárgals* from Dhrangdra, embossed book-covers and leather shields from Ahmadábád, shoes and sandals from Puna, and cigar-cases and embroidered boots from Khairpur in Sind.

The head-dress of the natives of the Bombay presidency is perhaps the most characteristic feature in their

costume, assuming as it does quaint and varied shapes which custom has prescribed for adoption by different castes. Several specimens of *pagris* were exhibited in the Bombay Court.

More than 3,530 articles were exhibited, of which nearly half were sent for sale by the manufacturers and nearly one-third were purchased by Government; the remainder being either lent or presented.

In conclusion it may be stated that many of the art industries were little known out of the presidency, and the Exhibition has been the means of giving them a wider publicity by bringing them more prominently before the public. How far this will conduce to the increase of trade it is very difficult to predict, owing to the many difficulties in the way of putting the purchaser into communication with the producer. Many of the industries, moreover, appear incapable of expansion, owing to the fact that the artisans are so wedded, from long usage and caste prejudices, to the production of certain kinds of wares, of limited use, and suitable only for the purpose for which they are manufactured, that suggestions for the further development of trade do not meet with ready response.

The spirit of competition of the West appears to be to a great extent unknown to the natives of India, and it is not therefore remarkable that suggestions for increasing their trade by means of publicity and competition should be treated with indifference. While collecting specimens for the Exhibition the officer in charge of the Bombay Court had an opportunity of studying this phase of the native character among the weavers of Ahmadabad and Yeola and the wood-carvers and weavers of Surat. When it was suggested to them that they should put forward their best efforts to produce something special for the Exhibition in order to obtain prizes and stimulate trade, their invariable reply was that they had no wish to increase their trade, as they had quite as much work as they could do to meet local demands. Indeed, as a rule, any attempt at increased production is followed by enhanced prices and deterioration in workmanship.

MANUFACTURES COURT.

The important and rising mill industry of Bombay was represented in a separate Court. Collections of silks and *kinkhabs* from the Sassoon and Alliance Company's Silk

Mill, the cloth, thread, and hosiery from the Manockjee Petit Manufacturing Company, from the Murarjee Goculdass Spinning and Weaving Company, from the Colaba Land and Mill Company, from the Indian Manufacturing Company, from the Kaisar-i-Hind Spinning and Weaving Company, and from the Coorla Spinning and Weaving Company, were all worthy of attention. The Anglo-Indian Mill stood by itself in sending a collection to illustrate systematically the different processes of manufacture, and the exhibit of the Bháonagar Mill illustrated the existence of spinning and weaving establishments in the interior.

Next in importance to the weaving industry is the local manufacture of soap. The Bombay Steam Soap and Candle Works Company sent an interesting collection, including the figure of Ganesh, the god of knowledge, with two female attendants and a faggot-bearer, all made of soap.

The Girgaum Paper Mill of Bombay sent a large collection of paper.

The chromo-lithographs of Puna indicated the beginning of a new industry in the Deccan.

Messrs. Bapty Brothers' East India Corn Mill sent a complete collection of corn and flour.

Besides the machine-made articles described, clay models of the aborigines of the Deccan, sent by Mr. Moore, Collector of Puna, were placed in this Court for want of space in the Ethnological Court.

The fire-proof iron safe sent by Harichand Manchharám (maker Shankar Harichand), and the padlocks from Baroda and Limdi, showed a successful attempt at making locks, in a line peculiar to native artisans.

The perfumes and essences from the Baroda state, distilled at Navsari by Mr. R. H. Bana, showed that an attempt is being made in India to supplement the French and German essences largely imported to this country.

The astronomical and other scientific instruments exhibited from Baroda and Puna were neatly made.

The cheese made with Puneria berries, sent by the Superintendent, Government Farm at Bhadgaum, was also placed in this Court for want of room in the Economic Court, as were materials, pigments, and glazes used in Indian pottery, and miscellaneous rough manufactures.

CHAPTER X.

Burma.

The Burmese may be said to be an artistic people, although no handicrafts have attained excellence save perhaps, those of the silversmith and wood-carver. Most Burmans are, however, able to draw spirited, though conventional, representations of animals and foliage. The art-workmen as a body are contented with bold, rough work, and are generally indifferent to all attempts at finish or sound workmanship. This is probably due partly to the history, partly to the idiosyncrasy, of the people. The village communities, said to have been the strongholds of traditionary art in India, seem to have had no parallel in Burma. There has been no system of caste under which the son has followed the calling of his father from generation to generation. There have been no munificent monarchs like Akbar to foster and encourage the artistic taste of the people. The period marked in the history of other nations by the transition from the state in which each man provides with his own hands for almost all his wants to the state in which the formation of large communities renders necessary the division of labour and the adoption by certain classes of separate vocations was for the inhabitants of Burma a time of war and rapine, in which whole communities were ruthlessly slaughtered or carried off into slavery. The result is that the average Burman of the present day is averse to application and fond of change. As a rule, he possesses none of that plodding industry and untiring devotion to his work found in some other races, but is prone to grow weary of any continuous occupation, and to relinquish it on the most frivolous grounds or from mere caprice. Under such circumstances artistic excellence is hardly to be expected, and it is to be found, if at all, only in the cases of individuals who possess a larger share of energy and perseverance than is ordinarily met with in persons of their race. Perhaps no

better example of the effects of this infirmity could be given than the industry of "weaving." This is perhaps the oldest art in the province. It has been practised in every house and hut throughout the country from time immemorial. Supplies of cotton and silk are to be had almost at every man's door, while perhaps there is no race in the world more fond of brave attire than the Burman, or more ready, however poor, to give extraordinary prices for a cunningly-woven garment. Yet the best weavers in the country, in fact the only persons who produce the costly and elaborate *pasos* and *thameins*, which are so much prized and which produce such a pleasing effect at the great pagoda festivals, are of alien race, the descendants of slaves captured and brought to the country from Manipur by one of the Burman kings.

To compensate the Burman for his want of power of application, he has a fertile imagination and a wealth of mythological tradition. He accepts the most wonderful legends with child-like faith, and by his versatile genius is able to represent them in works of art which astonish critics by their grotesque and exuberant fancifulness. But although these productions are often miracles in conception and workmanship, they generally lack the finish that characterises some of the best Indian work. It is now the aim of the local Administration to improve the arts in this respect by encouraging the workmen to compete at international and local exhibitions and by enabling the artists themselves to inspect the works of their rivals.

The collection exhibited in the Burma Court was the work of the first artists in the country, and in it the effects of the characteristics mentioned above were to be traced. The decorations were in the style used at important ceremonies and religious festivals. The screen over the entrance was made of red and gold tinsel paper cut into a mass of intricate tracery and pasted on to a bamboo framework. It was supported by a pair of *kaynayas*, creatures half-man, half-bird, with a flowing tail and the flame-like garment worn by princes. The funeral pyre in the central aisle was made of the same materials, and was like those used at the cremation of a Buddhist priest, only smaller. These structures, although destined to be burnt, are artistic in form, colour, and details, and are well suited for the designer's purpose, as when finished they stand in the centre of a flat plain encircled by other similar erections of lesser splendour, around which crowd a huge

concourse of Burmans in their gayest holiday attire. The pyre is thus the centre of a mass of splendid colour and gleaming white, and to maintain its place of honour it requires all its height and every aid that the artist's grotesque fancy or mastery of colour can lend. The masks on the side walls of the Court were by the same artist, and were of bamboo basket-work roughly woven to the general shape of the head. The ears, nose, lips, and other excrescences in these works, are modelled of clay mixed with chopped straw, and are stuck on to the basket-work, the whole being covered with paper, on which the colour and gilding is laid.

To turn now to the decorative work in brick and plaster, the dragons or *nagas* which stood at the entrance of the Court claimed attention. They were the work of the master plasterer of the Shwe Dagôn pagoda at Rangoon, and the same artist made the shrine on the west wall and the cornice above. The mythological animals in this artist's work are good instances of the reduction to a concrete form of the fabulous creatures which take part in Burmese stories. The dragons with gaping jaws and horrible teeth, erect crests and collars, lie with their winged feet compressed ready to spring forward in defence of the gateways of the pagodas at which they are placed. This monster is a favourite with Burmese artists, especially with the wood-carvers; a particularly good example being seen in the steering-chair made by Moung Taung. At the base of the shrine are two *manotthihas*, half-lion, half-man, with two bodies and one head. It is said that long ago a prince was suckled by such a creature, but when he grew up he swam across a river and left his foster-mother broken-hearted. To perpetuate the memory of a deed so meritorious, likenesses of these creatures are placed at the four corners of every pagoda. A shrine carved in teak was also exhibited, and a comparison of the two gave an idea of the diverse treatment of the same subject in different materials.*

Over the south door of the Court was a very typical Burmese painting in water-colours, representing a king and his suite in a prison fort with the victor king addressing him from an elephant's back. In another division of the picture were shown the queen and her attendants embarking in boats at the mouth of a cave.

There were about twenty exhibits of carved teak and gilt lacquer furniture made in Rangoon and Prome. Among these were the exhibits of the Institute of Wood-

carving at Rangoon. The work and design of the carved portions of these wood-carvings are good, but the joinery and general design are behind the requirements of the present day, and it is now the object of the Institute to obtain orders for the panels, supports, back pieces, and other carved parts of furniture which it is felt the Burmese artists can produce in any quantity of varied and grotesque design and at comparatively low rates. The jury selected Maung Tha Yaung's carved teak shrine as the best piece of wood-carving exhibited, and recommended the artist for a gold medal. The back piece over the image was a delicate and exceedingly intricate piece of tracery in three intervening planes. A carved teak steering-chair in the centre of the Court was beautiful for the exquisite curves formed by the bounding and divisional lines, for the depth of under-cutting, and for the graceful, yet vigorous, flow of the foliage work. There were many other specimens of carved teak work illustrating the various ways in which the artists treat the material, such as simple and intricate foliage work, figure carving in bas relief and sculpture, and a few specimens of plate tracery work of a similar nature to that seen in Chinese temples.

Under the head of ivory-carving were a few exhibits from Moulmein and a number of sword handles. The best piece of work was a table-ornament made by Maung Nyaing. It consisted of two figures seated inside a bower of delicate foliage tracery, the figures having been carved through the small interstices of the leaf work. Maung Nyaing also exhibited an elephant's tusk carved throughout into images of Goddama seated in niches, and a set of chessmen. Other artists exhibited small figures, paper-knives, and *da* handles.

The silver-work of Burma is much esteemed by connoisseurs all over the world, and under the guidance of Europeans it is being improved, while the national characteristics are jealously preserved. The work is hammered, embossed, chased, and carved, and sometimes cut into open tracery, but it is all made in exactly the same way. It can be applied to any shape, and European patterns are often covered with the Burmese work; but the native demand is entirely for articles of simple shape, such as large round bowls without cover or legs, betel-boxes, small oval lime-boxes, and such like. More intricate shapes are made for use in the palace at Mandalay.

The Burman artist treats silver so as to obtain the greatest effect that the nature of the material allows. The

work is either simply embossed and chased, or, in addition, the background is cut into open tracery, a burnished lining being placed within. This will be better understood after reading a description of the manufacture of an ordinary bowl.

The purchaser when giving his order pays for the silver of which the bowl is to be made, and the rupees are melted down in a crucible over a charcoal fire. When pure, the melted metal is allowed to cool in the saucer, which serves as the mould to produce a plate flat on one side and convex on the other, about ½ inch or ¾ inch thick. The silver plate is then gradually beaten out on a small iron anvil with an iron hammer until it is of the full diameter of the bowl to be produced. Throughout this process, and until all hammering is over, it is from time to time heated to red heat and dipped into cold water to preserve its ductility. The right diameter being attained, an edge or lip is raised by hammering with a straight-edged hammer at an angle of 45°, and when the lip has been raised right round, the operator begins beating on the bottom in a narrowing spiral line until the centre is reached, when he steadily works outwards and again inwards, and so on. This process causes the lip or edge to rise, and is continued until the full height required has been obtained. The bowl is then beaten with a heavier hammer on a small curved iron anvil until it is of the right shape, when it appears pretty smooth and covered with innumerable small hammer marks. The old masters laid great stress on the importance of this hammering, and no doubt it is necessary to render the silver ductile enough to withstand the severe handling with which it afterwards meets. A composition of earth-oil, brickdust, and resin is now prepared and melted into the small bowls, and a short stick is thrust in to serve as a handle. In large bowls an earthenware jar, tapering towards the bottom, is placed about half-way down the bowl, and the space between the two is filled up with the composition. The lines dividing the surface horizontally are drawn on it in pencil and then with a graver: in the best shops this is done in the lathe. The surface is divided into the various "houses" or portions for figures, and the borders and the flower-work are drawn with a pencil and marked out with a graver. The master generally draws a small portion as a pattern, which is repeated by his pupils, and unless he has a skilled pupil draws the figures in pencil. When the entire pattern

has been engraved in line, the first embossing takes place by which all the parts to be lowered are punched in and recede into the pliant composition, which also forces out those portions which are to be in relief. When this process is over, the composition is melted out, and those parts which are not yet in sufficiently high or sharp relief are punched outwards from inside. The bowl is again filled with the wax-like composition, and the edges of the embossed portions are defined, and it is handed over to be chased, carved, and cut about until every face has expression and all clothes texture, and until the leaves curl over round the gracefully twining tendrils, and the whole composition receives those last touches which show the design that has from the beginning been clear in the creative brain of the artist. When the work is finished it is boiled in a solution of alum for half an hour and then brushed with soap and cold water. The flower-work is burnished with small brass wire brushes, and the large smooth portions with steel burnishers, and the whole is rubbed with white enamel beads.

There are two kinds of open work: both of which are done when the bowl is finished as above. In one kind the intervals between embossed and chased leaves and flowers are cut away; in the other the background around the figures is cut into plate tracery.

In many compositions, such as centre-pieces, vases, and candlesticks, figures in the round are introduced. The figure is first shaped and carved in a composition made of two parts of bees-wax and one part of resin. When correctly modelled, the wax figure is coated over with a thin layer of fine clay well kneaded and mixed with chopped straw, and afterwards with a thicker layer of ordinary clay. The mould is baked in the fire, the wax melts and runs out through a hole left for the purpose, and the clay becomes as hard as brick. The melted silver is run in, and when it is cool the mould is broken and the silver figure is patched and corrected as required.

Work is paid for by weight, and can be obtained at from eight annas to one rupee eight annas per rupee weight. The worst work is dear at eight annas, but the best or master-silversmith's work is decidedly cheap at one rupee eight annas, and the artists will not give it willingly.

The modern work exhibited was contributed by some five first-class and five second-class men, and varied very much in merit. The Rangoon artists sent centre-pieces

and bowls made in pierced work and supported by solid sculptured figures. This work did not, however, take the judges' fancy, for they awarded a gold medal to Moung Bya of Prome for a small unpierced bowl in which none of the more difficult kinds of workmanship were attempted, but which was made by the master's own hands. The large collection of old silver bowls, cups, betel-boxes, cheroot-boxes, and such like was gathered from all parts of Burma, and, as might be expected, showed great variety in style of decoration, although the shapes were similar. The Shan work is different from the Burmese both in shape and style, often displaying some delicacy of execution. Among the silver-work were a few specimens of silver *niello* work of the kind made in Russia and Kashmir.

The collection of jewelry included specimens from all parts of Burma. From Arrakan and the islands on the West Coast came ornaments in pure soft gold quaint in design and of accurate workmanship. These ornaments were nearly allied to some exhibited in the Assam Court. The Government of Bengal purchased a peculiar gold bracelet, in which imitations of bi-valve shells are placed round, standing out from the arm.

The most characteristic ornament worn by Burmans is the *dalizan* or peacock necklace, of which many varieties were exhibited. That from Tavoy, said by Birdwood to be the initial form, consists of a number of hollow pendents hanging from a plaited chain. That from Ramree Island on the Arrakan Coast may perhaps represent the next development, for though some of the pendents are present, rosettes have been added and connected together. That from Moulmein is the Taline form, in which there are no pendents and as yet no peacocks, but simply rows of rosettes connected by small loops. The modern *dalizans* from Rangoon show much variety, some being in filigree work with one or more rows of peacocks, others of much more delicate work introducing small petals of gold; the final development being a *dalizan* in which the peacocks are replaced by clusters of rubies and pearls. *Dalizans* of rows of diamond clusters will probably be seen soon, for the Burmese are beginning to use diamonds and to despise their old traditional gold ornaments.

The ornaments worn in the hair are also peculiarly characteristic, but here an affinity to the Chinese is seen in the shape and colour of the vibrating filigree flowers and butterflies worn by both nations just over the top-knot of

hair. The most natural of this class of ornament is the comb, which is made in gold dyed red with bright yellow gold flowers or stars arranged along the upper edge. Several families have substituted diamonds for the cut gold. Hair-pins or *sado* with filigree flowers, butterflies, peacocks, and such like, are often met with, and are sometimes more elaborately worked into the *pau gine* with many branches.

The children wear a round necklace called *naw sat gone* or *hlan sat gone*, of which specimens were exhibited from Rangoon, Moulmein, and Prome. In Arrakan this kind of necklace is met with in the form of gold beads threaded on a string, the beads being made to resemble various fruits. Old forms of chain-necklaces were also exhibited—curiously plaited and wrought. The Burmans are fond of pearl and gold necklaces formed by stringing seed-pearls, separated by small pieces of burnished cut gold.

The King of Burma exhibited some silk *pasos* woven in intricate wavy patterns and in many colours. The Government of Bengal bought four of the most characteristic silks, to which, no doubt, examples of the different kinds made in lower Burmah will afterwards be added.

The walls of the Court were hung with *kalagas* or red hangings, on which were portrayed scenes from the mythological plays. The work is technically known as *appliqué* work, and is formed by cutting the figures and foliage of the picture out of coloured cloths and sewing them on to the back ground. The result is a gorgeously-coloured screen, which is used to decorate the house on festival occasions or to partition off a part of it for a guest. The *kalaga* also forms a gay roof-covering for the bullock-cart when the family travels to one of the large pagoda feasts. The process of manufacture is as follows:—Part of the red cloth ground is stretched by lacing it to the sides of a wooden frame. The leaves and flowers of the border and the strips used to line out the divisions of the picture are marked out on the differently-coloured cloths with chalk and cut out with a pair of scissors. The border running round the edge of the *kalaga*, which is about 15 inches broad, is lined out with strips of cloth, after which the leaves and flowers are added. The detached pieces of the pattern are pasted on with rice paste and afterwards firmly sewn with thread of the proper colour. When the border is finished the figures are placed in the centre. As is the case with all Burmese art-work, the designs are bold yet graceful, the grotesque element being

especially good. This *appliqué* work is well adapted for use in friezes, *pankha* fringes, screens, and piano-covers. An ordinary *kalaga* may be bought at the rate of 8 annas a square foot, and a better quality at 11 annas. The materials are worth about 37·5 per cent. of the ultimate cost, and the labour has about the same value, leaving 25 per cent. for contingencies and the wages of the master.

In making silk *kalagas* the same designs are used as in the cloth ones, but the details are more carefully worked out, and the colour effect is so improved as to become almost beautiful. The work is not *appliqué*, but embroidery in floss silk. Only one man is at present able to make silk *kalagas*, and he charges Rs. 6 a square foot. This rate covers all expenses and allows him wages of Rs. 40 a month, which is not excessive for a skilled workman in Burma.

At a recent exhibition the judges slightly disparaged Burmese lacquerware, because they considered that the effect was produced at one painting, and was not produced by successive varnishings. For a long time it was assumed that Japanese lacquered goods were simply *papier-maché*. It is now known that it is really wood of different kinds painted over with the juice of the *urushi* tree. It is probable that many people suppose that the Burmese productions are made of solid wood, and wonder at the extreme thinness and flexibility of the finer specimens. It is only the coarsest ware which is thus produced. All the better boxes and cups are made of a woven basket-work of strips of bamboo; the varnish used on them is, like the Japanese lacquer, the sap obtained from the stem of a tree, and has nothing whatever to do with the insect-produced lac. *Thitsi*, the sap of *melanorrhea usitatissima*, is dark in colour from the moment it is gathered. The articles required are chiefly drinking-cups, betel-boxes, and pyramidal *farrim sa oht*, used for carrying food to the monasteries. Platters are made of wood like the Japan ware. The process of manufacture has been recently described.* Little basket-like boxes are woven of fine bamboo wicker-work upon round chucks of wood. On this "form" a coat of the pure wood-oil is evenly applied with the hand, so that the slightest particle of sand or dirt may be detected. This is then put away to dry, not in the sun, which might pucker and blister it, but in a cool airy place. After three days it is quite

* "The Burman: His Life and Notions." By Shway You: MacMillan & Co.

dry and hard, and is then liberally and evenly covered with a paste called *tha yo*. This is made in a variety of ways, the commonest being a mixture of finely sifted teak sawdust, *thitsi*, and rice-water. But instead of the sawdust, or often mixed with it, finely ground bone-ash, or paddy husk burnt and strained through a cloth, is kneaded in. This *tha yo* is allowed to dry quite hard, and the box is then fastened to a rude lathe, which is turned with one hand, while the other is employed in polishing the box. This smoothing down is effected with sifted ashes or sometimes with a piece of silicious bamboo. When this is done, the box is ready for a fresh coat, which almost invariably consists of a mixture of finely-powdered bone-ashes and *thitsi*. This, after drying, is polished in the same way as before. The box is now a brilliant, glossy black, and the first stage of manufacture is finished. The ground colour of the great majority of the boxes and cups is red; but some of the black wood oil is required to rise through it and define the pattern. This is effected in a most ingenious way. The black box is put on the lathe again and turned round, while the lines and spots and the form of the black pattern generally are sketched on in *thitsi*. The drawer has no guide but his eye. There is no preliminary mapping out, yet a practised hand will never make a mistake and spoil a box. The fresh *thitsi* thus put on stands up above the general level of the surface. The whole box is now covered with red paint; and when this is dry, the box is put on the lathe again, and the operator turns it round and rubs it steadily with ashes. By this means the red paint is removed where the lines of *thitsi* rise above the general surface. No box is, however, complete without three colours; and the last shade is applied in an equally simple and effective way. The desired pattern is incised with a graving tool. Then the whole box is coated over with the new colour, and this is in its turn polished off on the lathe till nothing remains but the lines of the engraved pattern. If another colour is required, a similar process is gone through. When the design is complete, a clear varnish of another vegetable oil is applied all over as a last touch.

This process is used also in preparing boxes and tables. The boxes are generally coated with red lacquer, the tables invariably with black. After the boxes have been well washed and smoothed down, a coating of lacquer, red or black as the case may be, thick in body, is laid on and the articles

are put by for a day or two. This coating is to act as a gold size. When the size has sufficiently hardened to permit of its being touched without smearing the fingers, the worker proceeds to paint the design which he wishes to produce on the box or table, the lines standing up above the surface. The paint used is made from sulphide of arsenic or orpiment, which the worker rubs with a little water on a sandstone palette. To this he adds a small quantity of powdered gum arabic, so as to make the paint adhere to the size. The outline must, however, be finished before the *thitsi* groundwork on which he is painting has become too dry to be serviceable as a gold size. The drawings being finished and the paint dry, the process of gilding begins. The gold leaf is laid on over the whole surface, over the size, and over the drawings or tracings: the gold adheres to the size, but not to the paint. The article is then put away, always in a cool and airy place, until the gold has firmly adhered to the size. The tracings, or rather the paint which rises above the level of the general surface, is now washed away with cotton-wool and water, and the design stands out prominently against the gold ground in red or black lines, according as the lacquer beneath the gold is red or black.

Some of the panels are decorated in bas-relief by attaching beadings, figure and foliage work made by mixing *thitsi* and finely-powdered bone-ash, and taking a cast from a mould cut out in a soapstone slab. A panel so treated looks as if it were made of polished ebony.

The shrines and the priests' begging-bowls are first carved or turned in wood, and afterwards covered with gold leaf and ornamented with pieces of green and red glass and looking-glass.

Gilt lacqueredware is comparatively cheap, and the artists do not do more than earn enough for a livelihood.

CHAPTER XI.

Central Provinces.

The exhibits from the Central Provinces were placed in a Court situated in the eastern annexe to the Indian Court, the entrance being from the main transept through the Assam Court. An archway was erected between the Assam and Central Provinces Courts decorated on the one side with Assamese cloths and on the other with cotton cloths and silks manufactured in the Central Provinces. A piece of wood-carving marked the south end of this Court and the commencement of that containing departmental exhibits. The side walls being hung with carpets and cloths and skins of wild beasts, and with stuffed heads and antlers, formed a very effective *coup d'œil* from the entrance to the Court. This collection of hunting-trophies exhibited by Mr. J. F. Snuggs was most comprehensive, as will be seen on a reference to the catalogue, and contained specimens of most of the skins of animals found in the Central Provinces that are of use for decorative purposes. The centre of the Court was occupied by show-cases containing jewelry, silverware, metalware, some pottery and stoneware, and the more valuable samples of silk and other fabrics.

The Central Provinces are singularly deficient in manufacturing industries, and their productions are even more exclusively agricultural than those of most other Indian provinces. Handicrafts possessing any real artistic merit appear to be almost entirely wanting, and the only manufactures that have any distinctive character are the embroidered silk fabrics of Burhanpur, the fine cotton cloth woven at various places in the Nágpur, Chánda, and Bhandára districts, and the tasar silk of Chánda, Seoni, and Chhatisgarh. The city of Nágpur has no peculiar artistic manufacture, although it has a population of over 98,000 and formerly held a native court of considerable wealth and importance. Under native rule Nágpur had some reputation for the art of embroidery with seed-pearls, and the treasury of the Bhonslá estate contains very fine specimens of work of

this class. The art has now entirely died out in the absence of any demand.

Wood-carving of some merit is procurable at Ságar, Damoh, Jabalpur, and Nágpur. The designs used are purely native, and are generally applied to screens, doorways, and pillars. Perhaps the most important manufacture under this head is that of carts, for which several places in the Bhandára and Chánda districts are well known. The manufacture appears to have been greatly fostered by the opening up of railway communication as far as Nágpur, which has stimulated a large cart traffic, especially from the Chhatisgarh country. The Bhandára district, however, lies between Nágpur and Chhatisgarh, and cart manufacture may be expected to decline very rapidly in this district, now that the line of rail has been extended on into the Chhatisgarh plain. There is considerable variety in the carts used in the southern districts of the Central Provinces, the most noticeable being those with disc-wheels. These are very durable, but from the narrowness of the tyres exceedingly destructive to roads.

Iron ore is worked in the northern portion of the Jabalpur district, at some places in the Narsinhpúr district, and in the Chánda district, at the extreme south of the provinces. The industry is most important in the Jabalpur district, where there are no less than 48 small mines, some of which have been recently taken up by an European contractor. The iron is smelted in small earthen furnaces—charcoal being used as fuel—and is made up into vessels, which are considered much more durable than those imported from Europe. There is, however, an increasing difficulty in obtaining a market for them owing to the low prices of English goods.

The brass manufacture of Bhandára, Lodikhera in the Chhindwára district, Timorni in the Hoshangábád district, Mandla, and Sambalpur, used to be held in good repute. It does not, however, appear that it ever possessed much artistic merit, or was sought after on any other account than its neatness and durability. The manufacture is now greatly depressed by the competition of European goods. It is said that ten years ago there were upwards of 200 firms of brass-workers, whereas now there are only about 50 or 60. Since the extension of the railway to Nágpur, and the introduction of Bombay brassware to the Central Provinces, the local trade has steadily declined. The imported goods are cheaper,

though perhaps less durable than those made locally, and they command a ready sale. The importation of rolled brass sheets has also greatly affected the brass-workers of Bhandára, many of whom were formerly employed in smelting and beating out the metal into sheets, but whose occupation is gone now that the sheets are imported ready made and all that remains to be done locally is to convert the brass sheets into vessels by shaping and soldering. There are still, however, workmen in Nágpur and Bhandára who possess some skill in brass-graving and can turn out specimens in the style of those made at Banaras, though of vastly inferior merit. At Lodikherá also brass-working as a special skilled handicraft is said to have died out since the opening of the railway to Nágpur.

Some native cutlery of merit is manufactured at Jabera, in the Damoh district, and there is a native cutler in Nágpur who has obtained a more than local reputation, chiefly, however, for articles of European design.

No distinctive jewelry is made in the provinces, with the exception of fine gold necklaces, of peculiar pattern, which are manufactured at Sambalpur. Gold and silver ornaments of the patterns in ordinary use among Marathas are made in good style and workmanship by one or two goldsmiths in Nágpur. The only characteristic handicraft of this class is the manufacture of silver-gilt wire at Burhanpur, a relic of the days when a native court existed there. The wire is drawn from bars of silver called *passas*, which are made of a uniform size—6 inches in length and 60 tolas in weight. The *passas* are made up, and the wire is partially drawn out under municipal supervision, a duty of Re. 1-8 being levied on each *passa*. The purity of the material is thus ensured, and the Burhanpur wire has maintained a better reputation for quality than the wire made in the Bombay presidency. On the other hand, it has rendered it impossible to meet competition by lowering the price of the wire, and the sale of the Burhanpur manufacture is said to have been affected by the import of cheap imitations from other places. Each *passa* receives a gilding, on the thickness of which the price of the wire in great measure depends. The weight of gold used to gild a *passa* varies from 8 to 42 *mashas*. The *passa* is drawn out to a length of 700 yards in the municipal enclosure, and in this form it is taken home by the wire-drawers. It is subsequently drawn to an astonishing fineness, the degree of which varies with the class of work to which it is

to be applied. Thus a *passa* from which *kalabattu* (gold and silk twisted thread) is to be manufactured is drawn out to the length of 72,000 yards; while one to be used in making flattened wire for braiding (*gota*) is only drawn out to 48,000 yards.

The process of wire-drawing consists in pulling the wire through a series of holes of decreasing size in an iron plate, the wire being fastened to a wheel which is turned by a winch.

The number of *passas* which have been drawn into wire each year since 1868 has been accurately registered. The results are summarised below:—

		Number of *passas* drawn into wire.
Five years	1868—1873	2,879
„	1873—1878	2,987
One year	1878—1879	2,527
„	1879—1880	2,865
„	1880—1881	3,114

The manufacture does not therefore show any signs of declining.

Some stone-carving of merit is carried on in the town of Chánda; and in a village named Kanheri, in the Bhandára district, small vessels are turned out of a soft stone quarried there. These are not intended for ornament, but for use, since the scruple which prevents earthenware vessels from being used more than once at meals does not apply to them. They are also used for keeping preserves, which would be likely to acidify in metal vessels.

Under the head of stone-carving may also be included the pebble-work of Jabalpur, which consists of knife-handles, paper-knives, studs, and ornaments neatly cut from agates and other stones found in the bed of the Narbada. The manufacture is precisely similar to that carried on at Banda, in the North-Western Provinces.

Mention may also be made here of the onyx beads which are to be found at some places in the Narbada valley. These, which are bored, have evidently been used in former days as ornaments, but are now found detached, and, as a rule, buried a slight depth below the surface of the ground. They are known by the name of *danae sulaimáni*, having, according to common belief, fallen from the throne of Solomon when passing over the Narbada valley in one of its aërial flights.

Ornamental glazed earthenware of a brown colour, diversified with light yellow lines, is made at Burhanpur. The secret of glazing is confined to a single family, and the amount of work turned out is very small. What there is of it is not destitute of artistic merit.

The only articles made of leather deserving of note are the shoes and slippers which come from Chánda, the excellence of which is recognised beyond the limits of the district.

The production of fine cotton cloth is the most characteristic manufacture of the Nágpur, Bhandára, and Chánda districts, the cloths of Umrer in Nágpur and of Pauni in Bhandára being considered especially good. The art of spinning thread of great fineness is one for which these districts have long been well known. In 1867 a piece of Chanda thread, of such fineness that a pound's weight of it was said to measure 117 miles in length, was exhibited at a local exhibition. The importation of English yarn and the competition of the machine-made yarn of the Nágpur Cotton Mills is reported to have resulted in a great decline in the art of hand-spinning. The weaving industry has suffered less from this competition, partly because of the intrinsic excellence of the goods manufactured, and partly because of the prejudice in favour of wearing them which exists among the better class of Marathas. The greater part of the woven goods turned out consists of turbans and *dhutis*, which are generally distinguished by a border of dark red silk, on the breadth of which the value of the fabric in great measure depends. These borders are often woven in intricate patterns of different shades of colour. The manufacture has, however, fallen off under the competition of English-made goods, and it is now not uncommon to attach a silk border of local manufacture to cotton cloths imported from Bombay. It is said that the cotton-weaving industry has declined very considerably during the past ten years. Not only is the number of articles now turned out much less than formerly, but the value of the goods is very much lower. Pauni used to be specially famous for its finely-woven, broad-bordered, and richly-ornamented turbans and *dhutis*. Bhandára, too, used to produce a plentiful supply of turbans and waist-cloths of considerable value. Quantity and quality have alike fallen off at both places. The opening of railway communication with Bombay has therefore had the same effect on local weaving as on brass-working, and has greatly injured the two principal indigenous handicrafts of the provinces. It is fair, however, to add that the production of fine cotton cloth

appears alone to have suffered, and that the weaving of the coarse cotton stuffs worn by the agricultural classes has greatly increased in some places. It is said that the number of weavers in the town of Hoshangábád has increased from 116 to 216. The labouring classes prefer the coarse fabrics which are locally made to imported goods because of the greater strength and durability of the former.

The fine cotton cloths made at Pauni and Andhargaon in the Bhandára district, and at Umrer, have generally a border of silk, which is as a rule of a plain dark-red colour, but is occasionally made up in varied colours and patterns. Silk-weaving is therefore in these places associated with cotton-weaving, and both are carried on by men of the Koshta caste. The dark-red colour is obtained by the use of cochineal (*dana kirmani*). The colour produced at Umrer is considered to be the best—a fact which is attributed to some peculiar property in the water, which gives a brilliancy of tint not obtained elsewhere. Under ordinary circumstances silk-weaving is restricted to the weaving of borders, but plain silk fabrics can readily be made up to order. The most important silk-weaving is, however, that carried on in the town of Burhanpur. Burhanpur is especially noted for its *saris*, which are commonly woven of silk and cotton mixed, yielding a fabric of great softness of texture. They are made up in a large variety of patterns and colours, of which the best were represented by specimens at the Exhibition.

Tasar silk is at the present time the most characteristic of the provincial manufactures. Its production is largest in the districts of Seoni, Biláspur, Sambalpur, and Chánda. The rearing of the worms is entirely in the hands of the Dhimars, who are men of very low caste, and it is therefore difficult to stimulate production either by the direct action of Government or by increasing the demand for silk. Tasar-rearing has, however, been specially exempted from duty in Government forests. The worms feed on various kinds of trees, but that on which they are as a rule reared is the saj, asain, or en (*Terminalia tomentosa*). No rearing-shed is used. The trees are pollarded and their branches are bent down, so as to be accessible from the ground. The worms being allowed to wander over the foliage at will, constant watching is required to protect them from birds and insects. They are also peculiarly liable to disease, and it is no uncommon occurrence for the whole of a crop of worms to die off, leaving the Dhimars without any return for their time and trouble. To prevent this, the Dhimars adhere very

strictly to certain ceremonial observances while engaged in rearing. Rearing commences on the setting in of the rains, and is always started with wild cocoons which have been gathered in the jungles, not with cocoons saved over from the last year's reared crop. The male and female moths which emerge from these cocoons are allowed to pair, and from their eggs a crop of worms is raised during July and August. The cocoons which are thus produced are used only for rearing a second crop in August and September, the produce of which is the commercial result of the venture. About 80 worms are, under favourable circumstances, reared from the eggs laid by a single female moth, and about 44 per cent. of the moths are females. Assuming, therefore, a Dhimar to commence operations in June with 25 female moths, and to devote his first crop entirely to production, his second crop would yield over 70,000 cocoons. It may be noted that on the emerging of the moths which result from the first crop the males fly off at once, and do not as a rule pair with the females of the same crop. The female moths remain clinging to their empty cocoons, and are fertilised by other males, who are often, it is believed, attracted from very long distances. This peculiarity is shared by several other species of the order (*Bombyx*) to which the Tasar moth belongs. The cocoons are sold by the Dhimars to the weavers at from Rs. 3 to Rs. 5 per 1,000. The weavers kill the chrysalides by steaming, and wind off the silk after soaking the cocoons in an alkaline solution obtained by mixing the ashes of the dried seed-pods of the pulse known as *urd* (*Phaseolus radiatus*) in boiling water. This acts as a solvent on the gummy matter binding the cocoon threads together. The silk is then spun and woven into a fabric, the value of which depends very greatly on its thickness and consistency. As a rule, the cloth is of a plain light buff colour, but it can be made up to order in buff and black lines and checks.

Tasar silk-weaving is carried on at a number of places in the Sambalpur district, of which Barpali is the chief. Cloth of good quality is also made in the town of Biláspur, where a colony of tasar-weavers was settled some years ago by the Deputy Commissioner of the district. The material is very largely used in Chhatisgarh for *dhutis* and coats, and takes the place which is occupied by Umrer and Pauni fabrics in the Nágpur country. The value of spun tasar silk is from Rs. 6 to Rs. 10 per seer—a higher price than it commands in Europe.

CHAPTER XII.

Hyderabad.

The Hyderabad Court occupied one bay on the west side of the Indian Court, having the Mysore Court on the south and the North-Western Provinces Court on the north. The main entrance was through a handsome archway. The decorations of the interior consisted chiefly of carpets and arms hung against the walls, and of cases containing the other exhibits.

* The Hyderabad manufactures have declined considerably of late years, in consequence mainly of the vastly increased demand for European articles, both for dress and domestic use. The manufactures of Warangal carpets, of the celebrated brocades of Aurangabad, of the *bidri*-ware of Bidar, of the cotton stuffs of Nandair, and of the silk stuffs of Paithan, are all languishing; and unless some means of creating a demand can be devised, it is to be feared that the manufacture of most of these industries will before long cease to exist.

The muslins and fine cotton stuffs of Telingana have long been celebrated. Marco Polo, speaking towards the close of the thirteenth century of the manufactures of the kingdom of which Warangal was the capital, says:—"In this kingdom are made the best and most delicate buckrams and those of highest price: in sooth, they look like tissue of spider's web. There is no king nor queen in the world but might be glad to wear them." In a note to this passage Colonel Yule remarks:—"Here buckram is clearly applied to fine cotton stuffs. The districts about Masulipatam were long famous for muslins and coloured chintz." The fine muslins of Masulia are mentioned in the Periplus. Even in the time of Sakya Muni, Kalinga was already noted for its diaphanous muslins.

Many attempts have been made to direct the attention of the Indian and English public to the beautiful products of the looms of Aurangabad, Warangal, and other places. One of the first of these was an exhibition of the raw products and

* "A Historical and Descriptive Sketch of H.H. the Nizam's Dominions," published at Bombay in 1883.

manufactures of his Highness the Nizám's dominions held in Chadarghat in November 1856 at the instance of the late Sir Salar Jung, G.C.S.I. Previously to this exhibition, which excited considerable interest, some of the famous Warangal rugs and carpets had been sent to England for display at the great Exhibition of 1851. Ever since that period the Government of his Highness has contributed regularly to all exhibitions of works of art and manufactures, whether held in India or Europe.

Bidri-ware is now manufactured in much smaller quantities than formerly, owing to the absence of a regular demand. The natives who make it are usually poor and without capital; and as they cannot afford to make and keep a large stock of the more costly articles on hand, the manufacture is now usually restricted to actual orders given to the artisans. The following is an account of the manner in which this ware is made, as described by Captain Newbold:—"The mould of the vessel is first prepared, in the usual manner, of clay turned into shape on a wheel; over the smooth surface of the mould a coat of wax and *rál* (rosin), in equal proportions, with a little oil is laid of the thickness of the sides of the vessel required; over the wax another thick coat of clay is applied. Gradual heat is next resorted to to harden the clay part of the mould, but principally to melt out the wax, which, of course, leaves a vacuum in the space it occupied. Into this space the molten alloy is poured, and after it is cooled the mould is broken and the vessel in rough taken out, polished, and set aside to receive a black colour preparatory to inlay from a smearing of blue vitriol. The alloy itself is of a pewter-white colour, and is composed of the following proportions:—1 seer of *jast* (zinc) to 2 chittacks or 6 *sháhi* pice weight of *tamba* (copper). The pattern of the ornamental device to be inlaid, either in silver or gold, is drawn lightly with a steel point on the blackened surface of the vessel, and then cut out to the depth of the inlay required with a tiny delicately-pointed chisel, worked by a small hammer. A thin bit of paper is pressed into the excavated pattern to receive the impression, taken out, and placed upon a thin plate of silver (the inlay), which is itself laid out evenly on a bed of mixed wax and *rál* and cut into the exact shape of the impression. The cut-out bit of silver is then pressed into its corresponding cavity engraved on the side of the vessel and firmly inserted by means of a steel point. This done over all parts of the

vessel, it is again polished preparatory to receiving its finishing coat of black. This is done by subjecting the vessel to gentle heat and smearing it with a mixture composed of 1 tola of saltpetre and 3 mashas of sal-ammoniac ground up into the consistence of cream with brackish water. After allowing this mixture to lie upon the vessel for a few hours, it is washed off with a little brackish water. The inlaid silver devices are little altered in colour, but the intervening portions of alloy remain of a permanent dead black." Captain Newbold witnessed the whole process of inlaying, and could not help admiring the precision, lightness of touch, and celerity with which it was performed. The work is divided into three branches—mould-making, smelting, and inlaying. Bidri does not rust, but is brittle and is easily broken.

A large number of swords and other weapons were exhibited. Blades of an inferior description are made at Hyderabad, Gondwal, Wunparti, Kolapur, and other places in the Nizam's dominions, and may be purchased mounted with iron handles and wooden leather-covered sheaths for prices ranging from five to fifteen rupees. Blades of good water come from Gujrát and Persia, and fetch prices varying according to the temper of the steel. Very good watered blades are also made at Jagdeopur, in the Khammam district. The better kinds of swords are mounted with ivory or steel handles, inlaid with gold and silver. Blades are made both straight and curved, the best being invariably of the latter shape.

The following are the various kinds of swords worn, some of which are made in the dominions. Their values vary from five or six rupees to five thousand, according to the quality of the steel and the history and traditions attaching to the blade. *Jauhardár*, watered blades, which always fetch much higher prices than any others. Blades of this description, when made in Hyderabad, are cast from the famous Kunasamudram steel, already noticed. *Seorhi*, a light curved sword of fairly good steel, made at Jugdeopur, and worn chiefly by Rathors. *Teghá*, a broad and straight blade, made of inferior steel, in common use. *Abbási*, a Persian sword, made of good steel. The blade is generally finely tempered, narrow, and straight. It is worn chiefly by Mughals. *Nimcha*, an inferior and half-sized weapon, with a straight blade, worn by the lower classes. *Asil*, a sword, of which there are several varieties, differing only in the curvature and breadth

of the blade. The *Asil*, which is sometimes of good and sometimes of inferior steel, is made at Jagdeopur, and is worn by all classes. *Misri*, a straight and finely-tempered blade, generally made of good steel, worn by the better classes. *Farang* (Frank, probably English), a broad and heavy blade, usually made of inferior steel. This sword is worn by professional fencers and a class of men skilled in the art of self-defence, who are styled Phikaits. *Kirich*, the regulation or military sword. *Dhop*, a weapon made of fairly good steel with a straight light blade of medium breadth, usually worn by the nobles and gentry of the city. *Patta*, an old-fashioned weapon, now rarely made, and seldom seen, except in collections of arms or in places where fencing is taught. It consists of a steel gauntlet reaching to the elbow, the portion which covers the back of the hand being usually cast to represent a tiger's head. Below the head is a crossbar which serves as a handle, to which a long, triangular, two-edged blade is attached. The blade, which is sometimes more than four feet in length, is thin and flexible, being made of well-tempered steel. Two of these weapons, one on each hand, are usually worn. *Nawáz-khani*, a sword having the outer instead of the inner edge of the curve sharpened. It is usually made of good steel. *Sailapa*, a superior description of sword, which used formerly to be imported from Arabia and Syria by the Arabs. Many of the old blades, which are highly prized, are still to be found. Very good blades of this pattern are made from Kunasamudram steel. The swords most highly esteemed are—(1) the *Abbási* or Persian blades, already mentioned; (2) the *Janabi* or Jansiz blades, which used to be imported in olden times, perhaps from the Italian Republics; (3) the *Maghrabi* or Toledo blades; and (4) the *Alamán* or German blades, which probably also came to India by way of the Italian Republics. There is, besides these, a native Indian blade of great fame, frequent references to which are to be met with in the ancient literature of the Arabs. This is supposed to have been the Guzaráti blade, still prized by connoisseurs. English blades are sometimes met with disguised as native swords, and Wilkinson's have sometimes been found, draped in velvet and tinsel, in the hands of swash-bucklers in the city.

The following weapons, in addition to the gun and sword, are worn by the Arabs:—*Jambia*, a two-edged dagger worn in the waist-belt, having a curved blade about seven inches in length, varying from two to four inches

in width, and tapering to a point. The handles of these weapons are sometimes made of the dried sinews of the camel, but the wealthier classes usually have them mounted in richly-inlaid ivory, jade, or silver. They are worn in green velvet, silver, and leather sheaths. The better descriptions are made in Arabia, but very good ones are made at Hyderabad and elsewhere from Nirmal steel. The average selling price is from Rs. 15 to Rs. 50, according to the quality of the steel. Behind the Jambia the Arabs wear the *Sikin*, a knife with a curved blade, about six or seven inches in length. These knives, which cost from one to five rupees, are made at Gadwal, Jagdeopur, and a few villages near Hyderabad. Behind the *Sikin* again is worn the *Chimta*, a pair of light iron or steel pincers, used to pick up fire, extract thorns, and for various other purposes. These weapons, with the ball-pouch and gunpowder-flask, usually horn-shaped, both of which are made in Hyderabad, complete the armoury of the true Arab; the Maulads, or Dakkhani Arabs, wear in addition to these a pistol, which is usually provided with a flint lock. The barrels of these pistols were formerly made at Lingampalli, Yalgandal, and other places, but their manufacture has almost entirely ceased of late years.

The principal weapon worn by the Pathans is the *katar*, a double-edged dagger, having a breadth of from two to three inches at the hilt, and tapering down to a fine point. The blades vary in length from six inches to one foot. Just above the hilt are one or two small crossbars, by which the dagger is grasped when used. Parallel with the cross-bar or handle are two pieces of steel, six to eight inches long, which cover the wrist. Some of these weapons have a semicircular guard of iron, capable of withstanding a sword cut. The best are made at a place near Agra and at Barhampur. They are also manufactured at Hyderabad, Gadwal, and elsewhere in his Highness's dominions. Their cost varies from Rs. 5 to Rs. 50, according to the quality of the steel. The hilts of the more expensive kinds are frequently inlaid with gold and silver. These weapons are worn in the waist-belt. The swords worn by Pathans are curved, and are usually longer and heavier than those of the Arabs. Their best blades come from Persia, but very fair ones are made at Gadwal, Warangal, and Wunparti.

The Rohillas wear the *pesh kabz*, a curved dagger about one foot in length. The breadth at the hilt varies from two

to two and a half inches, and the blade tapers away in the centre to one inch, having one edge only and ending in a curved point. The handle is usually of ivory or bone, and occasionally of silver. The majority of these daggers are made at Hyderabad, and are sold at from Rs. 8 to Rs. 50 each. The swords worn by the Rohillas, which are usually made of inferior steel, cost from Rs. 5 to Rs. 10. The Rohillas also carry pistols of local make.

The Sikhs wear the *peshkabz* and *jambia*, as well as the *katar*, and most of them carry guns. The steel quoits worn in their *pagris* usually come from the Punjab, but a few are made at Hyderabad.

All the armed classes mentioned above, but especially the Rohillas, wear shields made of rhinoceros hide or well-tanned leather. The latter, which are made at Hyderabad, are circular in shape, having a diameter varying from fourteen inches to two feet, are embossed with brass or iron knobs, and are provided with slings for the arms. They are usually worn over the left shoulder.

In addition to these weapons the following are also made at Hyderabad, Gadwal, Warangal, Wunparti, and some villages near the capital. *Bánk*, a dagger with a curved blade, worn by Dakkhanis, about eight inches long, sold at prices varying from Rs. 2 to Rs. 10. *Bichhua* (literally a scorpion), an ivory or bone-handled dagger, five or six inches long. *Márú*, a weapon made of two antelope horns tipped with steel and having a handle and guard in the middle, fitting it for either backward or forward thrusts. *Chura*, a long dagger, varying in length from eighteen inches to two feet, carried in the hand, and usually mounted with a deer horn or silver handle. *Ballam*, a two-edged spear attached to a shaft from three to five feet in length, and carried in the hand. *Khanjar*, a dagger similar in size and shape to the *jambia*, made locally, and usually worn by Arabs and Moguls. *Sanáni*, a curved dagger, about six inches in length, sometimes worn by Arabs, and generally made of good steel. *Safdára*, a dagger similar in shape and make to the last. *Karoli*, a miniature dagger, having a blade rarely exceeding four inches in length. It is made at Jagdeopur and other places, and as it is easily concealed, it used to be considered a handy weapon in the quarrels which were formerly of not unfrequent occurrence. *Eta*, a long steel spike fixed in the head of a wooden shaft about four feet long, surrounded with small brass bells and feathers, so that but a small portion of it is visible.

It is carried by a servant in the trains of the city nobles. Bows and arrows, in the manufacture and use of which some of the wandering tribes of the jungles are very expert, are rarely seen at the capital, except in private collections.

Warangal has long been celebrated for its carpets and rugs. The industry of carpet-weaving is followed by a colony of Muhammadan Shaikhs of the Sunni sect, said to be descended from Persian settlers who came with the Muslim armies of invasion. The carpets made are of three kinds—silk, cotton, and woollen. The weavers also make what are called *satranjis*. These are woven from cotton twist, similar to that used for table-covers and screens. The *satranjis* are striped blue and red, blue and white, or red and white, or have diamond-shaped squares in the centre, with a border to match. They are made of different sizes, and are priced from one to three rupees a square yard.

Daris, which bear the same relation to satranjis as rugs bear to carpets, are also made. The *dari* (from *dar* = door) is a small satranji, often placed at the door to fill in the space left by the big satranji. The woollen rugs and pile carpets known as *galicha* and *kalin* have a warp of strong cotton or flax and short lengths of coloured wool twisted into each thread. The two ends that stick out are then clipped to a uniform level, and are kept apart by a thread of wool running between the threads of the warp. The lines of work are further compacted together by striking them with a blunt fork called *kangni*. When all is complete, the surface is again clipped and dressed. The devices on the carpets can be traced to Persian originals, and the workmen arrange the colours either from their own designs or from a pattern. The carpets are seldom over 15 yards in length and from $1\frac{1}{2}$ to 6 yards in breadth, and the price varies from Rs. 3 to Rs. 30 a square yard. Silk is used instead of wool in the more expensive kind of carpets, and in the Exhibition of 1851 the finest rugs exhibited came from Warangal. These were priced at £100 per square yard, and were the only examples in which silk was used in carpets with a perfectly satisfactory effect. The brilliancy of the colours was kept in subjection by their judicious distribution and by the exceedingly fine count of the stitches, of which there were 12,000 to the square foot. Lac is used for the scarlet of the better carpets, and a crude madder-red ground is employed for the commoner kinds. The ordinary price of silk carpets varies

from Rs. 100 to Rs. 150 a square yard. Unfortunately the quality of both woollen and silk carpets has greatly deteriorated owing to the demand for cheap and quick work. Cotton carpets and rugs of a superior description are also manufactured at Hyderabad and in the Kulbarga jail. Some specimens of this manufacture sent to the last Melbourne International Exhibition obtained a diploma. Piled cotton carpets, which are more prized than woollen carpets, as being softer, prettier, and more durable, fetch higher prices. Carpet-manufacturers have unfortunately taken to aniline dyes, the use of which sometimes results in a most hideous travesty of the neat artistic colouring of the carpets of olden days.

The *kinkháb* or gold cloth made at Paithan and Aurangabad, which was once celebrated throughout the Deccan, was formerly in great demand, and very costly pieces were manufactured. The Persian Ambassador, who arrived on a mission to Mahammad Kuli, the Kutb Sháhi King of Golkonda, in 1603, and remained at that Court till 1609, took with him, amongst other return presents, a piece of *kinkháb* the manufacture of which had occupied the looms of Paithan for five years. Cloth of gold, however, is now no longer made at Paithan, and almost the only town in the dominions where the manufacture still lingers is Aurangabad, where hardly a dozen looms survive. The greater portion of the produce of these is sent to Hyderabad. The ordinary description is sold for about two or three hundred rupees per piece of three yards in length by about one yard in width. Pieces have been manufactured at a cost of Rs. 1,000 each; but this has been only on special order from some of the wealthy nobles of Hyderabad, or for the Nizám himself. The proprietors of the *kinkháb* looms are all Borahs. The work, for which the workmen are highly paid, is exceedingly complicated and difficult, and it would be impossible to give an intelligible description of it without the aid of diagrams, which are not procurable. The manufacture is chiefly carried on in the ground-floor rooms of houses in the most crowded part of the city. A skilful workman can make a piece of *kinkháb* in three weeks, but the richer descriptions require much more time.

The manufacture of *mashru'*, a mixed cotton and silk fabric, generally used by native ladies for under-garments, is carried on at Hyderabad, Aurangabad, Paithan, Vaizapur, Gadwal, and elsewhere. The warp of the cloth is of silk, and the woof is composed of various coloured fine cotton

threads, the whole being disposed in spotted or striped patterns. Some of the pieces have a narrow border of silk. The term *mashru'* is derived from *shara'*, meaning 'lawful.' The material is so called because the mixture of cotton makes it lawful for men to wear when praying. The wearing of pure silk at devotion was prohibited by the Prophet.

Hemru is similar in most respects to *mashru'*, being a mixture of cotton and silk made up in various patterns. Tunics and vests are made of it. Gold and silver tissue cloths are also manufactured, the texture of some of which is almost as fine as muslin. They are used for veils, head-dress, bridal robes, and *saris* by the wealthier classes.

Muslins embroidered with the wings of green beetles from Khandesh are chiefly made at Aurangabad and Paithan. These muslins, which are very handsome, are principally exported to Madras and Hyderabad. Many females of poor but respectable Musalman families find employment in this manufacture, and thus are able to earn a subsistence for themselves. Another class of embroiderers stretch *fask* (brocade) upon a timber frame, and work patterns of flowers and leaves upon it very tastefully by sewing on brass spangles, beetles' wings, and gold and silver *badla*. Caps and velvet slippers are embroidered in the same manner, and please the native taste by their showy, glittering appearance.

Very handsome brocades are made at Aurangabad, Vaizapur, and elsewhere of coloured silk and gold and silver thread. They are used for trimming dresses, caps, &c. Brocades are made of various widths, and fetch from two or three rupees per tola, according to the quality of the workmanship.

Elegant cloths, called *dupattas*, composed of a mixture of cotton and silk, ornamented with very pretty devices of flowers and other patterns in gold and silver thread, are produced at Paithan and a few other towns in the dominions. Pieces of this description of material sometimes cost as much as a thousand rupees.

Saris, scarves, and other smaller articles, are made from the silk of the tasar-worm gathered in the jungles in the eastern and southern parts of the dominions. Silk cloth of a very durable description is manufactured from it at Warangal, Narayanpet, Koshgi, Matwada, Husainpurti, and other places. Some of the insects which produce the silk are found in the jungles in the vicinity of the Pakhal Lake.

The best description of tasar silk is manufactured at Narayanpet, in the Raichur zila, and at Madhapur, on the banks of the Godavari, in the Yelgandal district. The insects are reared in the jungles at Madhapur by a small colony of weavers, who have long been settled there, and much of the raw silk produce is exported to other districts for manufacture. Fine silk *saris* are produced at Maiseram, ten miles south of Hyderabad. These, which are made in various colours, are richly embroidered, and fetch prices varying from Rs. 100 to Rs. 500. Good silk and cotton *saris* are made at Yelgandal and Narayanpet. The cotton *saris* of the latter place are of an exceedingly fine gossamer-like texture. They are made chiefly for export to Jeypore and Gwalior, and their prices range from Rs. 5 to Rs. 175 each. The silk *saris* of Narayanpet, which are noted for their superior workmanship, are exported to various parts of the Deccan.

In addition to the mixed cotton and silk manufactures enumerated above, cotton fabrics of a superior description are made at Nandar; cotton carpets at Gudur, Chuntagatri, and elsewhere; and silk cloths at Warangal, Gudwal, Paithan, Vaizapur, &c. Cotton fabrics of a coarser kind are made in most of the larger towns, while blanket-looms exist in almost all the populous villages. Very good checked cloths, *pardas*, *shikár* cloths, tent cloths, &c., are made at the Kulbarga jail.

The following description of the manner in which the raw silk is prepared is taken from Dr. Bradley's report on the North-Western Divisions, and is generally applicable to the whole of the dominions. The process commences by placing a hank of raw silk upon a large reel, of which the length is nine feet and the height three feet. This wheel is provided with a sloping central spindle, the lower end of which works in a pivot on the ground, whilst the upper part turns in a socket in a piece of wood projecting from the wall. The workman, seated on the ground, proceeds to wind off the silk from the larger to a smaller reel, by fixing one end of the silk to the small reel and working it smartly round in one hand, while he turns the large reel in a contrary direction with the other hand and his toes. When the skeins are wound off, the silk is transferred to bobbins, after which it is fixed on the winding-machine. This is composed of three separate portions—a wheel and endless band, the rack frame

in which bobbins are placed, and the long cylinder for winding. From this machine the threads are wound on to a long polygonal roller made of a light framework of a foot and a half in diameter.

Wire is made of both gold and silver for embroidery purposes. Bars of silver of various weight, either plain or thickly coated with gold leaf, are passed through a series of holes drilled in a steel plate until the bar of metal, originally seven inches in length, has been stretched to the length of several hundred yards. The intense pressure employed to effect this renders the wire very brittle, and it has to be frequently placed in hot ashes in a pan to restore its ductility. The instrument for drawing the wire is called a *jumba*, and consists of a large pair of nippers, the inner sides of the blades of which are made rough like a file. To enable it the better to grasp the wire, a ring passes over the handles, to which a strong chain is attached and fastened to a windlass worked by the hands and feet. The chain and wire are wound round the windlass, and are again wound off on a small reel, called a *falka*. This operation has to be repeated about 40 times before the wire acquires the requisite dimensions. The holes in the draw-plate require to be made with great exactness, and for this purpose a fine steel-pointed awl is employed, whilst the workman is provided with a light hammer having a tapering head, with which, and a small anvil fixed on the draw-bench, he narrows the holes when abraided by friction. The machine or draw-bench for making the fine wire is a four-legged low stool provided with a small horizontal draw-wheel, round which the wire passes from a bobbin on a spindle at the further end. A steel draw-plate is fixed between the points through which the wire passes. A handle fastened to the upper part of the drum moves it round. The whole cost of the apparatus is about Rs. 7. After being drawn sufficiently finely, the wire is fit for the brocade or *kinkhâb* manufacture; but if required for gold thread, it has to be flattened, after which it is termed *badla*. Six or eight bobbins having fine gold wire wound upon them are fixed on spindles on a frame, and the ends of the wires being passed between two sticks placed upon the edge, are brought over the polished surface of a steel anvil, where they receive a slight blow from a small polished hammer. Gold thread is made of silk coated with gold leaf. Round one long winder, provided at the top with a hook and loaded at the bottom, is wound a certain

quantity of fine silk thread, and upon another winder, similar in appearance, is wound the *kullabuttu* as it is prepared, by attaching the end of some *badla* to the silken filaments and rapidly twisting the winder on which it is wound, the end being led over a hook suspended from the ceiling. As the silk thread twists round, the *badla* is carefully adjusted, so that it neither overlaps nor exposes the silk within.

Boots for regiments are manufactured in the city *kárkhán*. In former years much fault used to be found with the boots, for which only Hali Sicca Rs. 2-8 were charged per pair, but of late, the price being raised to Rs. 3, a far superior style of boot, both in respect to quality of material and workmanship, is turned out. The Mhangs, Chaklars, and Chamárs, who are the chief workers in leather, both tan and make up the raw material. Hides are tanned by softening in water for a few days, after which the hair is scraped off. The hide is then treated with quicklime, and after remaining in this condition for two to four days is placed in the tan, which is made from the bark of the *bábul* or any other tree yielding a good tanning solution. There it remains for a fortnight or three weeks, after which it is removed, and when soaked in clean water for a short time and dried is ready for use. When intended for the manufacture of shoes, the leather is usually steeped in a solution of red dye for a day or two before being worked. From the undyed leather buckets for wells, water-bags for *bhistis*, &c., are prepared. In the Raichur and Kulbarga Jails superior slippers are made of silvered and gilded leather, the latter of which is usually prepared from sheep skin, and is very soft and flexible. Leather of a superior description is made at Birh and Narayanpet. It is dyed red and green, and is used for bookbinding, and sometimes for a better description of native shoes. Some dressed skins from Narayanpet exhibited at the last Calcutta Exhibition were awarded a bronze medal, and a leather pad made from the same material obtained a similar award. Leather waterskins of a superior description, called *chagals*, which are used by travellers to carry drinking-water, are also made at Birh.

CHAPTER XIII.

Jeypore.

The Jeypore Court occupied a prominent position on the south side of the main entrance to the Indian Court.* The outside of the Court was tastefully decorated with arms arranged on arches, which were surmounted by a scroll emblazoned with the legend *Jeypore* in English, Hindi, and Urdu characters. In the interior of the Court the most conspicuous object was his Highness the Maharaja's collection of specimens of the industries of the state. These were much admired. The *papier-maché* work of Jeypore was well represented by a model elephant placed outside the Court. This elephant, being covered with the trappings and decorations usually employed by nobles of the Jeypore state, formed an effective contrast to the elephant facing it in the Bengal Court, which was caparisoned in the manner usual in Behar. The more valuable exhibits of jewelry and enamels were placed for safe custody in the jewel-room.

The following account of the industries of Jeypore has been kindly supplied by the officer in charge of the Court.

The art of painting appears to have flourished since the time of Maharaja Jai Singh, who imported a Mussulman painter from Delhi. The carpenter caste was the first to adopt the art as a means of livelihood, but of late years both potters and Brahmins have also taken to it. The best work, however, continues to be done by the carpenters. Recently painting and drawing have been taught in the School of Art, and some beautiful designs for jewelry and enamel-work, prepared by Ram Baksh, the teacher in the school, were exhibited. The preparation of mythological pictures gives employment to some hundred and fifty families. The paints chiefly used are English water-colours, which have superseded pigments of native manufacture. They are applied by means of brushes made of the hair of the squirrel's tail.

House decoration, both external and internal, and the preparation of designs for cotton-printing, are important industries.

The manufacture of glass except for beads and imitation gems has never reached any high stage of perfection, though small cups and attar-bottles are made. Rubies, emeralds, and sapphires, are well imitated in glass, and, until superseded by cheap European productions, were exported on a considerable scale. Recently the School of Art has commenced to blow glass, and some specimens of its work in this line found a place in the Exhibition.

Before the establishment of the School of Art in 1866, only two varieties of pottery—one red and one black—were made in the state, and the manufacture was confined to *chatis*, *surahis*, and other household utensils. During the last 18 years, however, great progress has taken place, and Jeypore pottery is now much appreciated and in great demand throughout India. Two varieties are produced: stone pottery is made from a mixture of felspar, glass, soda (*sajji*), yellow clay (*multani*), and a kind of gum known as *kithera*. The materials are ground, sifted, and after being mixed poured into moulds. The pieces thus produced are joined together and afterwards coated with a layer of finely-powdered felspar mixed with starch; the colours, of which a blue oxide of cobalt and a green oxide of copper are the commonest ingredients, are then painted on. After painting the ware is dipped in a transparent glaze made of prepared glass, and is then ready for baking. Clay pottery is made of a white clay (*kasbir*) found in the Tochara hills. The process is a simple one, the clay requiring merely to be moistened and moulded to the desired shape, after which it is painted, glazed, and baked in the same manner as the stone pottery. It is estimated that three men can produce 46 pieces of stone pottery or 90 pieces of clay pottery in a month. The price of the articles produced varies with the size and design, and ranges from As. 4 to Rs. 10 the piece.

Fire-bricks, which sell at Re. 1 a hundred, and fire-clay, which sells at Rs. 2 a maund, are produced in considerable quantities. An attempt recently made to manufacture porous jars for electric batteries proved unsuccessful.

The manufacture of brazen household utensils is carried on largely, nearly one hundred families being employed in the industry. Brassware is exported to Tali Marwar and Udaipur, an export duty of Rs. 2-8 a maund being levied by the Durbar. Since the Simla Exhibition of 1879 the manufacture of carved and engraved brass-work has been taken up by the School of Art, the productions of which find a

ready sale. The price of brassware varies more according to the skill of the workmanship and the labour bestowed upon it than with reference to the weight of metal employed. The usual price is from Re. 1 to Rs. 3 a seer.

Some twenty firms are engaged on the sculpture of marble, and have in their employment about one hundred and fifty workmen. With the exception of a few *kumhars*, the sculptors are entirely Brahmans by caste. The chief productions are idols, *chatris*, marble chairs, and small figures of animals in white, black, pink, and green marble. The age of the industry is uncertain, but it is known that marble sculpture was carried on to a considerable extent before the seat of the Government was transferred from Ambar to Jeypore. A duty of 4 per cent. is levied on rough marble, and there is an export duty of equal amount on carved work. The quarrying is done by Mussalmans, who are paid by contract at the rate of As. 8 to Re. 1 for every maund of marble extracted. The sculptors are paid by the month, and earn Rs. 8 to Rs. 15. Jeypore images, especially those of Hindu deities, are frequently painted and richly gilt. For these images marble from Mekrana is generally employed on account of its hardness and resistance to the atmosphere. White marble is also sometimes inlaid with marbles of other colours, the commonest being a black marble from Kotputti. For mosaic pavements a nummulithic limestone from Jasalmir is employed. The average export trade in marble is estimated at about Rs. 10,000. Specimens of Jeypore carvings are frequently taken to Europe by travellers, but the European demand is chiefly for the cheaper articles, and its indiscriminating character has led in this, as in so many other cases, to the production in large quantities of inferior wares, and to the consequent deterioration of workmanship.

The art of damascening in metal, as practised in the Punjab, was introduced into the School of Art about six years ago, but does not appear to have taken root in the state.

The manufacture of figures and models in *papier-maché* is carried on to a considerable extent. The mode of preparation is as follows: A clay figure is moulded to the required shape and allowed to dry, after which it is coated, first with a paste made of flour and water, and then with paper pulped in water with Fenugreek seed (*methi dana, i.e.*), *Trigonella Tœnumgræcum*. The pulp when half dry is worked into shape with a long sharply-pointed tool. When the figure is completely dry the

clay is removed from the interior through a hole at the bottom. These figures are chiefly used for the representation of mythological personages, which are placed in public thoroughfares and temples on the occasions of religious ceremonies. Some ten families are employed in their manufacture. *Papier-maché* is also used as a material for baskets for storing grain. The industry is still in its infancy, but the specimens contributed to the Exhibition showed some progress in the past, and gave a promise of further development in the future.

Chintzes of some excellence, on account both of the artistic character of the designs and the fastness of the colours employed in their ornamentation, are produced at Sangami and Bogra. Some of these are well suited for *pardahs*, table-covers, and household drapery. The prices, especially of those from Sangami, which are said be the more durable, are somewhat high owing to the elaborate process used in printing. The white cloth on which it is intended to print is first washed in plain water and then dipped daily for about a fortnight in a solution consisting of two parts of linseed oil, one part of lime, and four parts of water, being exposed to the action of the sun between each dipping. After this it is again washed and dried and dipped in a yellow solution of *Terminalia Chebula*. When dry the desired patterns are impressed on it with wooden blocks in an ink made of alum, turmeric, iron rust, the root of the *Rubia Cordifolia* (the *manjít*), the flowers of *Woodfordia Floribunda*, and a little oil. The printing process, which has to be repeated twice, requires great delicacy of manipulation. After printing the cloths are boiled in a solution of *Morinda Citrifolia*, *Rubia Cordifolia*, and *Terminalia Chebula*, and exposed to the sun to dry. They are then sent to Sangami and Bogra, and soaked for nearly a fortnight in the water of the river, which is said to give them a peculiar rosy tint. Lastly, the chintzes are again printed and washed, and are then ready for use. These chintzes are extensively used in the Jeypore state, and if better known, would doubtless be in greater demand elsewhere. The character of the printing varies with the quality of the chintz employed, and the price of the cloths when printed is generally double the original cost when plain. Excellent collections of chintzes were contributed to the Exhibition by his Highness the Maharaja and Mr. Tellery, the officer in charge of the Court, the latter collection alone containing over 1,000 different patterns. Cloths are also stamped in gold and silver, leaves

of metal being applied with a size, of which the composition is given below.*

Felts are manufactured at several places in Rajputana, but those of Malpura in Jeypore, where they have been produced from the earliest times, have a specially high reputation, and are largely exported to Jodhpur, Udaipur, Bikanir, and elsewhere. They are also used for saddle-cloths in some cavalry regiments. These felts are manufactured from sheep's wool, which is thoroughly cleaned, beaten into a pulp with soap and water, and worked into the required shape. The price varies according to quality. The value of the annual export is from Rs. 3,000 to Rs. 4,000. An export duty of Rs. 6-4 per cent. is levied by the Darbar on all Malpura felts.

The manufacture of boots and shoes is an important industry in Jeypore, giving employment to about 800 families of Mussalmans and Chamars. The former are the better workmen. Their manufactures do not appear to differ from those of other parts of India.

It is not certain when garnets were first discovered in Rajputana, but rough stones are known to have been exported upwards of fifty years ago and cut by Delhi lapidaries. The chief quarries were those at Sarwan in Kishengurh, in Udaipur, and at Rajmahal in Jeypore, though the last named are now worked out. The garnet-finders are chiefly Jogis from the Kishengurh state, who are believed to have been long acquainted with the existence of garnets, and to have carried on a secret trade in them under the guise of pilgrimage. They first began to quarry openly in about 1840, and since that time a tax has been levied on quarrying, varying from Rs. 4 to Rs. 20 for each pickaxe used. The work is profitable, and both contractors and quarrymen are said to earn an easy livelihood. The varieties of garnet found are of all colours, from yellow to purple and crimson. Stones are found of all sizes, from that of a grain of wheat to five or six inches in diameter. The rough garnets are cut in Jeypore by Mussalman lapidaries, and exported to Switzerland, France, and Germany, where they are used in the manufacture of watches and musical boxes and for jewelry.

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* Gum acacia ...	...	6 tolas	For silver stamping.	For gold stamping.
Chalk ...	...	3 „		
Hordeum vulgare	...	2½ mashas		
Asteracanthra longifolia	...	2½ „		
Salt (if not sugarcandy)	...	9 „		
Yellow ochre ...	...	2¼ „		
Chaudrus ...	...	1 „		

The tools employed in cutting and polishing are of the most primitive description. The total value of the export of garnets from Jeypore is about Rs. 70,000 a year. The price of garnets varies according to the cutting, colour, and size of the stones, but very fair necklaces can be obtained at prices ranging from Rs. 6 to Rs. 30.

The manufacture of Jeypore enamel, which has now a world-wide reputation, was started about thirty years after the foundation of the city by Maharaja Man Singh, at whose request five Sikh families skilled in the art migrated to Jeypore from Lahore. At that time the art was little known and not extensively practised. It has, however, acquired fame during the last sixty years, and the Jeypore enamels are now in greater demand than those of Delhi and Lahore. Enamelling can be done on gold, silver, or copper; but the first of these is the metal usually employed, as it can be enamelled in all colours, while silver can be enamelled only in green, blue, yellow, and pink, and copper only in white, red, pink, and black. The process is one requiring great care and skill. The article to be enamelled is first engraved by the goldsmith with a pattern supplied to him or according to his own fancy, and is carefully polished. It is then given to the enameller, who applies a coloured enamel in the form of a paste with a sharp-pointed style. The article is then placed on a piece of mica in a triangular furnace, which is heated to a red heat; When the enamel is sufficiently melted and thoroughly diffused along the lines of the engraving, the article is removed and polished on a whetstone. The most difficult part of the process is to know when the enamel has been sufficiently heated, and any error of judgment on this point necessitates a recommencement of the process. Only one colour can be applied at a time, and it is necessary therefore to put the colours on in the order of their resistance and heat, white being applied first, and then green, blue, black, red, in the order named. The white and red enamels are especially valued. The colours used are manufactured at Lahore by Mussalmans. Their composition is not known, but it is believed that they consist of glass coloured with metallic oxides. The exact colours obtained are supposed to depend in a measure on the quantity of heat used. The setting of jewels into enamelled ornaments is a separate art, carried on by a different set of workmen. The yearly export of enamels is estimated roughly at Rs. 30,000 to Rs. 40,000, of which nearly the whole consists of gold

ornaments. Excellence of workmanship is secured so far as it is in the power of the state to secure it by laws which compel the workers of bad enamel to repair it, and render liable to fine and imprisonment manufacturers of counterfeit wares. The general collection of Jeypore enamels at the Calcutta Exhibition was fair only, though it comprised some magnificent specimens of silver enamels, the property of his Highness the Maharaja.

No less than 144 specimens of gold and silver lace from Jeypore were sent to the Exhibition. The lace industry is an important one, and employs 400 families. The lace is manufactured from gold and silver wire, the method of drawing which is described in Chapter XI. Very little counterfeit lace is said to be made in Jeypore, where stringent regulations on the subject are in force.

The manufacture of lac bracelets, originally introduced from Kanauj, is carried on to a large extent by Mussalmans, who are known as Manihárs. The process in the case of the plainer kinds worn by the lower classes is very simple. A quantity of the purest shell-lac is thoroughly cleaned in water, mixed with its own weight of powdered lac ornaments and twice its weight of sand, and gently heated in an iron pan till it becomes pliable. The mass is then slightly cooled and hammered on a stone slab to mix the ingredients thoroughly. A portion of it is then drawn out into long pliable rods, which are wound round conical wooden instruments known as *hatta*. The spirals thus produced are then heated and flattened to the desired thickness with a hammer, after which they are broken at the proper points and the resulting ends are heated and joined so as to produce a pyramid of rings, termed *muthia*. The *muthia* having been stained and varnished with a warm paste consisting of *chandras* and vermillion, verdigris, yellow orpiment, or indigo, the rings (*churis*) are ready for use as bracelets. The upper classes wear a more elaborate kind of lac bracelet ornamented with false pearls, tinsel, and other kinds of fancy-work. Several specimens of both classes were exhibited in Calcutta. It is said that 300 families of workmen are engaged in the manufacture of lac bracelets, for which there is a considerable demand for export to Bombay, the Deccan, and Marwar. Lacquered ware is produced in the School of Art.

CHAPTER XIV.

Madras.

The remark that the Exhibition of Indian artware at Calcutta would have been more complete if fuller time could have been afforded for preparation is especially applicable to the Madras Court. This Court contained only specimens of the articles ordinarily manufactured, and thus in few instances afforded a proper criterion of the highest skill of the various workmen. In other provinces travelling facilities are greater, and the production of objects of art is constantly stimulated, as regards quantity at least, by a succession of tourists, with money to spend on its encouragement, the result being that objects of superior merit can generally be obtained even on short notice. In this respect Madras is at a disadvantage. It is out of the ordinary track of tourists. Consequently the demand for indigenous artware is exceedingly limited. The workmen are few, and no stocks are kept in hand from which a selection of really good specimens can be made for an exhibition, the preparation for which is hurried. Probably, however, until the Calcutta Exhibition comparatively few people outside Madras were aware of the existence of any art manufactures in that province, and the novelty and excellence of many of the exhibits in the Madras Court, though not the best that could have been procured, came upon many connoisseurs as a sort of revelation.

The Madras Court included, besides exhibits from Madras proper, the specimens of artware contributed by the Travankur state, many of which furnished the most ample proof of the artistic feeling and public spirit displayed by his Highness the Maharaja.

Two good portraits in oil of a prince and princess of Travankur were exhibited on loan. These were the work of a local native artist, and merited very high praise. The management of the drapery and the flesh-tints displayed remarkable skill, and some slight errors in fore-shortening alone detracted from the excellence of the pictures. A good

crayon drawing by a Madras artist of the Travankur Maharaja was exhibited. Some paintings on ivory of no particular merit were also shown, as well as several collections of paintings on talc, illustrating castes and professions. The colours of the latter, however, were very crude, and the drawing was thoroughly ungainly.

Some excellent photographs of buildings and landscapes were exhibited by the well-known firm of Messrs. Nicholas & Co.

The collection of musical instruments was good, and comprised specimens of many kinds—from the simple forms belonging to the rude hill tribes to the more elaborate types in use among the civilised populations of villages and towns. The following was the classification adopted:—

(*a*) *Instruments of percussion.*—Drums, tambourines, cymbals, castanets.

(*b*) *Wood instruments not depending on reeds.*—Horns, flutes, and whistles.

(*c*) *Wind instruments with reeds.*—Single tubes of various kinds with vibrating pieces of cane; an instrument closely resembling the bagpipe; gourd instruments with two or more tubes, and an instrument almost identical with the so-called Jew's harp.

(*d*) *Stringed instruments.*—Instruments with one string and without a finger-board; dulcimer with frame and strings of cane; instruments with finger-boards and frets for shortening the strings, the sound being produced by twanging with the fingers or with a piece of wood, bone, &c., and instruments with a finger-board played with a bow, like the violin.

Four very good specimens of black wood carving were exhibited by Mr. Whiteside, of the Madras Civil Service. This gentleman furnished the designs, which were executed entirely by native carpenters under his superintendence. The exhibits consisted of a side-board in the Elizabethan style, a credence or prayer-desk in the 14th century style, a bedstead of ancient Byzantine pattern, and a tea-box of renaissance design. The execution in the latter was particularly fine, free, and sharp.

No glassware or pottery of special merit was shown. Owing to an unfortunate misunderstanding, the pottery made at the Madras School of Arts was almost entirely unrepresented. This is much to be regretted, as the excellence of this ware, both in form and colour, is well known, and a valuable opportunity for comparing it with specimens from other Indian art schools and with European pottery was thereby lost.

Specimens of plain brass-work in the shape of lamps and other household utensils were shown by the Hon'ble Goda Narain Gajapati Rao. In one of these the adaptation of the leaf of the sacred *pipal* as a reflector was ingenious. Other devices in lamps for religious services and other purposes were exhibited. Various cheap trays in hammered brass, simply stamped, or of stamped and pierced pattern, were also worthy of notice. The chief centre of manufacture of the pierced trays is Tirupati, in the North Arcot district. The patterns are generally of the knob and flower or some similarly conventional type, and have at times a geometrical figure, a flower, or a mythical animal in the centre. The decoration is mainly arabesque, the cone being fluted and the margins serrated and lace-like. The trays, of which some were very pretty, were sold cheaply. A small collection of householdware and a number of articles used in religious worship were also exhibited from Tanjore.

Some neat specimens of basketware from the Ganjam district, and several of the nests of baskets familiar to travellers passing Madras by sea, were shown.

The few painted fans of palm-leaf, painted paper, and talc, shown in this class call for no special mention. Some painted leather dish-mats from the Cuddapa district, representing the usual Hindu mythological scenes, were however of considerable merit. Six very fair so-called lacquer trays were shown from Kurnul. The work resembled that from Hyderabad and Kashmir, and the designs and colour of the trays were excellent. Some beautiful carved cocoanut shells and *bael* fruit from Ganjam were also shown. The delicacy and accuracy of carving displayed in these was most remarkable, and the industry is one which deserves encouragement. A carving in black wood of a Hindu temple crowned by a large lotus, which was exhibited by the Maharaja of Travankur, displayed merit, though injured by having been polished. Some carved red wood figures of Hindu deities from Tirupati, in the North Arcot district, were very creditable; while a set of ivory chessmen, exhibited on loan by the brother of the zamindar of Pungamer, showed great quaintness in design. The ivory carvings exhibited by the Maharaja of Travankur were of exceptional merit and of great beauty of design. These were executed by the Travankur Government Ivory-carving Department. The best specimen was probably an almost faultless paper-weight, representing a Nair girl at her toilet. Of little less excellence were a book-rack with carved elephants and some carved hand-mirrors.

Another feature of great merit was the work made at Vizagapatam, consisting of ivory, bison-horn, or tortoise-shell laid on to sandal wood, or of a combination of the three materials so laid. There are two manufacturers of this work at Vizagapatam, named respectively Yendapilli Virasalingam and G. Chinna Viranna. The productions of each were of nearly equal excellence, but a combined work and jewel-box exhibited by the latter was said to be the best specimen of the work ever made. The work generally follows purely European forms, and is used for blotting-books, picture-frames, inkstands, work-baskets, glove-boxes, whist-markers, &c. The details of the ivory fretwork and engraving are carried out with a patient delicacy thoroughly Indian.

Some very delicate silver filagree work upon gilt and metal boxes was exhibited by Muhammad Mahmúd Khán Bahádur of Madras. Where and when these were made is uncertain. Similar, but inferior, silver filagree work was exhibited from Travankur. The delicacy of the execution of this work is remarkable; but as is the case with much of the filagree work made in Cuttack, Malta, and elsewhere, this very delicacy renders the articles unsuited for the purpose for which they are designed. A brooch, a card-case, or a tray, which is crushed by the slightest pressure, is obviously of no practical use.

Some specimens of fine Tanjore ware were shown. This ware is of four kinds: engraved brass, copper enriched with silver, copper enriched with brass, and brass enriched with copper. The second is, however, the kind usually known as Tanjore work. The ware takes the form of trays and of the various shapes of Hindu domestic vessels, while the ornamentation is generally in the form of medallions representing scenes from the Hindu mythology. The samples exhibited were only fair of their kind, and it has become very difficult of late years to obtain good specimens of the work. A large and somewhat indiscriminating demand for it has led to a rapid deterioration of the quality. The latest development, of which one specimen was shown in the Madras Court, is the worst of all; great spashes of silver, without form or delicacy, having taken the place of the carefully-moulded and engraved medallion, which should be the distinguishing feature of the work. A Tanjore tray made to the design of Mr. Whiteside showed a new departure of considerable merit in this description of art-manufacture The Tirupati work differs from that of Tanjore in that in the

former the copper and silver are laid into the brass, and are not *repoussés*, as in the latter. For trays this is a distinct advantage, as it renders them capable of actual use. The Tirupati work is very inferior as a rule in design and finish to that of Tanjore. That good work can be produced at Tirupati was, however, very clearly shown by the two excellent trays exhibited by Mr. Whiteside.

Some curious lizards, beetles, frogs, and other animals in brass, were exhibited from Madura, whence also came two most beautiful old steel weapons (a four-bladed dagger and an elephant goad), exhibited by the Hon'ble Mr. P. Hutchins. There was probably nothing in the Exhibition of the same description at all equal to these, which would in fact bear comparison with the best specimens of *cinque cento* weapons in Europe. It is melancholy to think that such a superlative art, though not yet absolutely dead, is fast expiring for want of encouragement. After these inimitable specimens of weapons, it is needless to do more than notice those sent from Travankur, though among the latter two daggers with gold damascened steel blades and sheaths formed of the snouts of sword fish, with gold floral ornamentations, were curious.

As compared with the other provinces, in most of which carpets formed a very distinctive feature, Madras made a very poor show, only a few small specimens being shown. The Vellore jail, in which are made carpets but little inferior to those of Agra or Lahore, and the Bangalore jail, were entirely unrepresented, while from the Ellore jail only one small specimen was sent. The carpets from these jails are in such demand—orders being booked long in advance—that no specimens were available for exhibition at Calcutta.

Some good specimens of grass mats were shown, especially two from Tinnevelly, which were especially noticeable for the cloth-like fineness of their texture.

Some good embroidery from the Hobart School for Muhammadan girls in Madras was exhibited in this class, the *phulkáris* in imitation of those made in the Punjab being the best specimens. The best exhibit in this class was, however, that of *palampores*, or stamped and hand-painted cottons; those from North Arcot, exhibited by the zamindar of Kalastri, and consisting of figure subjects from scenes in the Rámáyana, being most quaint. Other *palampores* from the Kistna district were stamped in the Mughal pattern with trees and animals. These *palampores* excited

very general admiration, and were also much appreciated by a gentleman travelling in India some two or three years ago in order to purchase objects of art for the South Kensington Museum. They can be used with great effect for dados, or for screens, curtains, and table-covers. They also look very well when thrown over couches. Their price is very moderate, and there can be but little doubt that there would be a very large demand for them from Europe were they better known. Some so-called chintzes from various districts displayed considerable merit.

A few figure models and toys and three curious sets of native playing-cards were shown.

A sample piece of the celebrated Arni muslin, made in the Chingleput district, was exhibited. It would be impossible to exceed the fineness of this fabric, but its delicacy makes it very expensive, and the good qualities have been entirely replaced by coarser cloths, the fine samples being made only to special order. A few samples of coarser muslin, in the form of *pagris*, and some excellent *chulis*, or women's breast-cloths, from the Bellary district were also exhibited. The latter are of mixed cotton and silk, and display most excellent taste in the arrangement of colours, while the texture is very close and good. For European purposes, they look very effective when thrown over the back of a chair. Their price is about Re. 1-8 each.

The woollen fabrics exhibited were of indifferent quality.

The women's cloths exhibited were to some extent disappointing. Three very good silk cloths from Ganjam were shown; but from Madura, where the best are generally supposed to be made, the cloths sent were remarkable only for a tasteless profusion of gold embroidery on poor material. The result was that very high prices were asked for inferior specimens. From the North Arcot district came two very handsome gold-laced cloths for men, in which the combination of pearl gray and gold was most effective.

A very interesting specimen of Kurg embroidery in red thread on a ground of white cotton cloth was shown by Mr. C. B. Madia. Some samples of embroidery were sent from the Saint John's Orphanage, Nazareth, Tinnevelly, and there were also samples of lace from the Sarah Tucker Institution, Palamcottah, and of pillow-lace from the S. P. G. Mission school at Trichinopoly. Some of the specimens of pillow-lace displayed considerable merit, but it is said that the quality has deteriorated in recent years. Some very

good gold-lace made by the Native Christian women of the Nagercoil branch of the London Missionary Society was exhibited by the Maharaja of Travankur. One piece of combined gold and silver lace in this exhibit deserved special commendation. Several samples of the ordinary white Nagercoil lace also deserve to be specially mentioned.

Some dress materials embroidered in gold and silk at the Hobart school for Muhammadan girls were show in this class. The work was similar to the embroidery already mentioned as being exhibited by this school, with the exception of one dress made of black net and embroidered with gold and the wings of a green beetle of the *Buprestis* order.

A large quantity of silver jewelry, executed by the artists of the Maharaja of Travankur, was exhibited. Some bracelets and necklaces made of the small local silver coin called *chakram* are pretty, but, speaking generally, the remarks made above in regard to the silver-work apply also to these exhibits. Some tiger-claw jewelry was shown, the distinguishing feature of the class being the gold jewelry lent by the Maharaja of Travankur. It would be hard to surpass many of these ornaments for correctness of design (from a Hindu point of view) and for faithful execution. Two pairs of valuable gold armlets inlaid with precious stones, exhibited by Pulicat Rámaswámi Chetty, were placed in the jewel-room. A collection of peasant jewelry as worn by the poorer classes in the town of Madras was also shown.

A very complete collection of the ordinary apparel, ornaments, weapons, implements of the chase, and household utensils of the various tribes inhabiting the hills of the Madras presidency, was exhibited. The tribes represented include the Kurgs, the Tadas of the Nilgiris, the Kaders of the Anamalais, the Malai Arasers of Madura, the Cherumers, Parayers, Nayadys, and Muleers of Malabar, the Rampas of the Godavari, the Chensus of Kurnul and Kishna, and the Lumbadis of the Bellary district. The last-named are, however, a wandering tribe like the gypsies,—not a hill tribe.

It will be observed from this account that though the collection might have been more complete in some respects, and more artistically excellent throughout, had more time been afforded for preparation, many of the exhibits were worthy of high praise, and many of the manufactures deserve encouragement. Regarding the probable effect of the Exhibition on the industries represented, it may be safely stated that a considerable temporary stimulus will certainly

be given to the industries the specimens of which specially attracted the attention of European visitors, such as the Tanjore ware, the Vizagapatam work, and the *palamporcs*. Under each of these heads large numbers of orders were registered by the officer in charge of the Court. This temporary impetus as regards mere quantity might become permanent if a more ready delivery of articles ordered could be ensured. Purchasers do not as a rule care to wait for two or three months between the date of an order and its execution. As regards the quality of the articles likely to be turned out should the increased demand for them continue, the prospects are unsatisfactory. Nothing can be worse for an artware than to become the object of an indiscriminating demand; for the endeavour to keep the supply abreast of it tends to the inevitable detriment of the artistic qualities of the work. This is especially true of the majority of Indian arts, in which the workers are very limited in number, often consisting only of the members of two or three families.

CHAPTER XV.

Mysore.

THE fine arts section of the Mysore Court, while neither so varied nor so extensive as that of the Courts of some of the other states and provinces, had several exhibits of intrinsic merit.

Owing to want of time for preparing special articles for the Exhibition, and to the size of the ordinary sculptures of the country, which are too large for transport, only miniature figures were sent for exhibition, and consequently the collection was not typical. The material used for these miniature specimens is soapstone, which is easy to work when fresh quarried, but hardens with exposure. Carvings in this stone that have existed for centuries are met with throughout the province. Their surfaces are still bright, and the angles are as clean as when first cut. The artisans have nearly died out, though the skill and delicacy of the work of the few that survive show that the excellence of the old art is not yet extinct.

The arts of engraving and lithography are of recent introduction into Mysore, and the specimens exhibited with one exception represented the result of European instruction. The province supplies all its own educational wants in the shape of maps and diagrams.

Painting and drawing have long found a home in Mysore, but since the downfall of Musalman rule the demand for them has gradually declined, until in the present day painters have to supplement their profession by other means. The class or caste of painters has not, however, died out, as it is compulsory on parents to teach the rudiments of drawing to their children, whether their labour is profitable or not. Samples of crude paints and brushes manufactured by native artists for their own use were exhibited. The pictures painted with these primitive appliances excel all expectation in the durability and brightness of their tints.

The exhibits of ebony-work inlaid with ivory were worthy of notice, both in design and execution. This description of work seems to have been once much in vogue in the province, as good samples are constantly met in very old-fashioned furniture, and the patterns have been handed down for generations. Workmen in ebony are at present very few in number.

The manufacture of lacquered toys gives employment to a number of hands, whose work is in demand throughout the province. Its value lies in the durability and finish of the colouring. The forms employed are traditional, being handed down from father to son. The prices of toys vary from three pies to several rupees each. The trade, of which Channapatam, a town on the Mysore State Railway, is the seat, admits of great expansion.

The famous sandal wood carvings of Sorab and Sagar formed perhaps the chief feature of the Court. The boxes, fans, cabinets, and cases forming this collection, were entirely covered with elaborate patterns, consisting for the most part of medallions illustrating Hindu mythology, encircled by intricate foliage, with figures of animals in relief. The details, incongruous in themselves, were grouped with eastern skill, and formed an exceedingly rich ornamentation. The minuteness of the carving on wood of so hard and close a grain as sandal demands so much care and patience that the production of a single panel is the labour of months.

The art of writing on palm-leaves, the durability of the material employed, and the wonderful preservation of the characters written, were illustrated by a few leaves taken from a standard work in the library of his Highness the Mahárája, dated 1418 of the era of Sálivâhana (A.D. 1495). Another old manuscript with illustrations of the Harivansa, written at a period when printing and lithography were unknown, on paper manufactured in the province, was still fresh and clear. The illuminated illustrations, though wanting in perspective and in light and shade, showed much grace and beauty and a perfect knowledge of the art of colouring. The paper and ink used are now scarcely procurable in the province, as the excellent material formerly manufactured is being rapidly displaced by the cheaper productions of the West.

Two *takids* written on *yekka* leaves (*Calotropis gigantea*) by Purnaiya, the well-known Diwán of Haidar Ali and Tipu Sultán, and afterwards of the British Government

in Mysore, were exhibited. They are very old, but the leaf is intact, and the writing quite legible. Leaves are still used for giving lessons in writing in the interior, where paper is not easily procurable. They are supposed to impart the habit of moving the pen with the great delicacy of touch so often observed in natives, most of whom can write freely and rapidly, resting the paper on the thigh while seated on the floor.

Channapatam, already mentioned as the seat of the toy manufacture, is also famed for its musical instruments. The samples exhibited were of the kind ordinarily in use throughout Southern India. The best specimens of these instruments were, however, lost in transit, and thus Channapatam failed to obtain its proper place in the list of awards in this class. The musical wire drawn from the indigenous steel of this town is held in high repute by the natives of Southern India, and a bronze medal was awarded to it at the Exhibition. Among the local musical instruments was classed a pot made of a peculiar clay said to be found only at Channapatam. This vessel is used in lieu of a bass drum, and is exported to the Deccan and the Berars. *Murchangs,* or Jews' harps, are also manufactured in this town, and form an article of export. The collection of musical instruments as a whole, however, failed to attract the favourable notice of the jurors.

Three lithographs illustrative of the discipline of indigenous schools previous to the introduction of the European system of instruction were shown. These were exceedingly characteristic of the classes of the people represented—Tamils, Telugus, and Muhammadans—and were interesting as illustrating the tyrannical influence of the schoolmaster over his charge and the torture suffered by the latter on the most trivial provocation. The punishments represented are: (1) a boy suspending himself from the roof by a rope while he is birched by the master; (2) a boy made to assume for a protracted time the position of sitting on a chair with nothing under him to bear his weight; (3) a boy in a sitting posture, poised on his feet, with his hands passed under his thighs and holding the tips of his ears between his index-finger and thumb; (4) a boy the knuckles of whose right hand, when closed, are subjected to severe treatment with a slate or board; (5) a boy having his cheek slapped and pinched; (6) a boy pinned as in the game of cock-fighting, daubed with jaggery to attract ants, and thrown off his equilibrium, which he cannot regain.

The appliances, as may be expected, were few and primitive in these schools. *Kaditam*, a rude prototype of what is now commercially known as "German parchment," served the combined purposes of slate and note-book. This article was prepared by the pupil himself by first sizing together several layers of common calico until they attained the rigidity of paste-board, and afterwards painting the material thus obtained with a composition made of *dhatura* leaves, charcoal, and size. When perfectly dry, it was folded up as slates are folded, and put between boards. The pencil used was a piece of soapstone, and the writings on this prepared cloth were of remarkable durability. The *Vyásapitha* was a rude book-rest, rendered absolutely necessary by the long hours of school life, and the cumbersome manuscripts of the Sástras and other standard works of the past. The *Halije* was a small black board prepared by the pupils, by repeated application of *dhatura* leaves and charcoal to a plank about 3 feet in length by 1 foot in breadth. *Kunthas* are the common steel pointed pens or styles universally used for scratching on palm-leaves and still in use in some parts of India. *Lekhanis* or reed pens were until very recently in extensive use, owing partly to a prevailing opinion that pupils who commenced writing with steel nibs would never master a clerkly hand, and partly to a superstition against the use of quills. The Stationery Department used to issue these reeds to Government offices. Chitaldrug in Tumkur is noted for the best *lekhanis*.

Articles of every-day use are extensively made from the soapstone so plentiful in the Malnád. This material is both chiselled and burned, and is quite porous until hardened and rendered impervious by a hot oil bath. Vessels made of it are durable, and range in price from a few annas to Rs. 60. A hot or tepid bath in a tub of soapstone is considered by the hill people to be a luxurious and efficacious remedy for certain diseases.

Steel of Mysore manufacture secured prominent notice in the Paris Exhibition of 1867, and received a medal at the Vienna Exhibition. The articles exhibited at Calcutta were so few and unimportant as to merit no special mention; but the superiority of the charcoal-made steel for cutting tools over steel made by patented processes of manufacture is well understood and readily admitted.

Sravan Belagola, situated near the French Rocks, has from time immemorial been the seat of the manufacture of

brassware, by which, though it is to a great extent restricted to trays and small castings of animal forms, a great number of workmen earn their livelihood. Other parts of India are, however, vastly in advance of Mysore in this line.

The bells and native drinking-vessels in bell-metal exhibited were of ordinary quality, but sufficed to show that local wants are locally supplied.

The collection of gold by washing auriferous sand taken from the beds of hill-streams after heavy falls of rain is an industry carried on all over the province, and the crude appliances used for this purpose were shown. These consist of a wooden platter, roughly trimmed by the gold-seeker himself, an earthenware basin, and a scoop. The process of washing consists in separating the pyrites from the sand by a liberal use of water, and treating the residue, after placing it in the wooden platter, with quicksilver and friction. The pyrites is then tied into a knot in a rag, covered over with cow-dung, and, when dry, burnt in an open fire to separate the gold from the quicksilver. Of the samples of gold quartz exhibited, the quartz from the Honnali fields, taken from a depth of 105 feet, showed lumps of gold. The yield from this mine is reported at 6½ dwts. per ton of quartz crushed by steam machinery, and is expected to rise to 10 dwts. per ton when the pyrites in the sand are also recovered.

Under the head of vehicles and wheelwright's work were exhibited models of the ordinary agricultural cart with wooden discs for wheels; the improved cart with naves and spokes; and the *Hallu bandy* cart, used to bring home harvest from the fields in the hilly districts. This last carries loads from four to six times as great as those of the ordinary cart, and requires as many pairs of bullocks to draw it. It is used for fairs and on festive occasions, such as marriages and holidays, when the cart is decorated and a platform is made by spreading planks on the framework. One of these, with five or six pairs of bullocks yoked to it, and carrying half the village folk on its spacious deck, is not an unusual sight in the Malnád. The farmer looks on this cart as an object of veneration, houses it carefully, and will on no account allow low-caste people to approach it.

Nine locks of types fast disappearing from ordinary use were shown. They were cumbersome, inconvenient, and not expeditious to lock or unlock; but they were

very durable and not easily picked or broken. Four other locks in brass, ranging in price from 5 to 12 rupees each, from the districts of Chitaldrúg and Tumkur, were made on the pattern of English locks, and were considered by the jurors to be deserving of a bronze medal and second-class certificate. The workmen are deserving of encouragement.

The manufacture of indigenous glass for women's bangles and scent-phials, which was illustrated by twenty-two exhibits, failed to attract special notice from the jurors.

Glazed pottery is not manufactured by the people, and the specimens exhibited came from the jails and sappers' workshops. The twenty-four specimens of clays shown seemed, however, to indicate that it is not in consequence of the want of raw material that glazed pottery ware has not obtained a place among the manufactures of the province.

Some silver trays and salvers were shown, which, though chaste and simple, obtained no award. A few articles of jail manufacture met with a ready sale at the Exhibition.

Mysore has at no period of its history been noted for cotton goods. Its wants have always been supplied from without, and local weaving is restricted to cloths of the coarser and poorer kinds, adapted for the labouring classes. Very few districts grow cotton, and the yarn for weaving is principally imported from the surrounding British territory. The principal exhibits came from the Famine Orphanage established by the Wesleyan Mission, and were very creditable, as the work of children not of the weaver class.

Woollen fabrics are woven of hand-spun yarn after the primitive fashion so common in India, without a slay and without healds. The exhibits consisted of fine *kamlis*, priced at from 35 to 80 rupees, much prized in the home of their manufacture and preferred by the people to English-made goods. The texture is fine, but the quality is never likely to become popular among Europeans, owing to the great harshness of the wool employed. Mysore, though a great wool-producing country and long famed for *kamlis* and carpets, in which it carries on a considerable trade, did not show to advantage when these products were compared with similar goods from other parts of India. The samples of horse-clothing and blankets from the newly-established mill at Bangalore were promising, and seemed to indicate a prosperous future for the wool-producers of the province. Fair coating *kamlis* from the

Kolar district were also exhibited, and priced at from 10 to 12 rupees the piece of 4 yards. These were said to be water-proof and very durable. Coffee-planters and native gentlemen of Mysore patronise these *kamlis* extensively, and there is a fair trade in them. The more costly kinds, priced at 150 rupees a piece, were not shown at the Exhibition owing to want of time to weave samples. Davanagir is in high repute locally for the best description of *kamlis*.

The exhibits of silk consisted of the common fabrics of native wear sold in the bazars. These were unadulterated, and the dyeing was of indigenous fast colours, while the texture was stout and durable. The fabrics were wanting in quality and finish, and on that account were awarded only a second-class certificate and bronze medal. In point of price they seem to have been favourably received, as those in the Court had a rapid sale.

Perfumed burning-sticks are manufactured only by Muhammadans, but are used by all classes of the people. The local consumption is large, and they are also exported extensively from Bangalore and Mysore to the Deccan.

The horn manufactures exhibited, though of small value in themselves, consisted of articles of every-day use, and compared favourably with English manufactures of the same class in quality, finish, and price. The Exhibition has resulted in large orders. The industry is of recent introduction into Mysore, and at present is carried on only in Bangalore, where all the shops get their supplies of combs, buttons, &c., from local workmen.

The models of railway carriages, as supplied by Messrs. C. Appavoo Chetty and Sons to the Southern Mahratta State Railway, and the architectural drawings and surveys by the School of Engineering and Natural Science, Bangalore, which were exhibited, are worthy of mention.

Bees have long been domesticated by the hill tribes of the Malnád, and it is not unusual to find hives attached to the eaves of the coffee-planter's bungalow in the Chikmaglur district. The contrivance that does duty for a hive is a *chatti* reversed and perforated to allow of the ingress and egress of the bees. These *chattis* are covered inside and outside with bees-wax, and are placed among the trees in the forests about the beginning of January. Swarms are attracted by the smell of the honey and wax, and the *chattis* are at once tenanted. In the

course of a month or six weeks the bee-keeper visits his pottery hives, and after carefully covering them with a thick towel carries them home and places them, mouth downwards, on a plank, under the eaves of his thatched hut. During the cold season the hives are covered over with loose straw to keep them warm, and the bees are fed on a ball of rice-flour mixed with honey, which is placed once a week in each hive. About June the bees disappear, but always return with increased swarms on the setting in of the monsoon. The samples of honey and hives at the Exhibition received a certificate of honour.

The Mysore samples of coffee are the true *Coffee Arabica*. The tree is said to have been introduced into the province two centuries ago by a Muhammadan pilgrim from Mecca named Bababudan, who established himself on the hill range forming the backbone of the country, which is still known as the Bababudan hills. The era of coffee-planting may, however, be said to have commenced sixty years ago, when the first European planter, Mr. Canon, opened his estate, which now goes by the name of Mailamone. The coffee grown on this estate fetches the highest prices in the London market. The samples exhibited were awarded a certificate of honour for the berries, and a certificate for the preparation and cleaning of the seed.

The cardamom from the Cardamaney Estate in Manzurábád, and the areca-nut from Birur, in Kadur, were excellent.

A very interesting collection of 140 views of the architectural remains in the country was exhibited. These were taken some years back by the late Colonel Dixon at the cost of the Mysore Government, and have been presented to the Imperial Museum of Calcutta. Among the photographs exhibited by professionals, the collection sent by Mr. G. C. Brown, of the Cubbon, Bangalore, received a first-class certificate and silver medal.

CHAPTER XVI.

North-Western Provinces and Oudh.

In the year 1867 an exhibition was held at Agra under the auspices of the North-Western Provinces Government, the net cost of which to the local Government was 2¼ lakhs of rupees, exclusive of the cost to other provinces. The Bombay collection, for instance, was valued at Rs. 10,000. In the closing address his Honour the Lieutenant-Governor remarked:—

"Such an event is not likely to recur in these provinces for some years to come, but local associations will be left to work up to the present model. I trust, however, that the next that may be held, whether organised by Government or by private enterprise, may as much excel the present as this surpasses previous efforts."

Since that time there have been district agricultural shows, notably those which have become annual at Bulandshahr, Mirat, Saharanpur, Alighar, and Bahraich, in which art and manufactures bear a small part. Shows were held at Lucknow in 1881 and 1882, at which art and manufactures again received considerable attention, while art contributions have been sent, either independently from various towns, or as provincial collections to exhibitions at Vienna, Paris, Calcutta, Amsterdam, Sydney, Melbourne, Simla, Lahore, and Jeypore.

The Calcutta International Exhibition was, however, the first since 1867, at which the local Government of the North-Western Provinces and Oudh had made extensive efforts through its district officers to procure a thoroughly representative collection.

To afford some estimate of the progress made since that time, a summary is given of the nature of the contribu-

tions from each district to the Agra Exhibition and Calcutta Exhibition:—

District.	Agra Exhibition, 1867.	Calcutta Exhibition, 1883.
Saharanpur ...	White wood carvings, fibre.	Wood-carving in soft white and in dark hard wood; the latter (of which the doorway and doors leading into the Court formed a good example), most delicate and artistic, silver and gold embroidery, illuminated manuscripts, old paintings, silver ornaments, pottery, glass, models of machinery, work in Sambur leather, checks and coloured cloths.
Muzaffarnagar	Papier-maché ware, woollen blankets.	Papier-maché ware, woollen blankets.
Mirat ...	.....	Cabinet-work, porcelain, silver-work, embroidered hand-made muslins, basket-work, cutlery, lithography, coloured and checked cotton cloths, miscellaneous cotton manufactures, leather-work.
Bulandsahhr ...	Gold and silver jewelry, carved wood, pottery, glass, toys, papier-maché, embroidery, brass, copper, iron, and lock-work (all plain), cotton cloths and woollen blankets, carved soapstone, perfumes.	Carved and inlaid wood-work, glazed pottery and glazed tiles, woollen and silk "Persian" carpets, cotton carpets and hangings, hand-made muslins, plain and embroidered with gold thread, hand-printed cottons.
Alighar ...	Brass-work, pottery, carved soapstone.	Wood-carving, cotton carpets, unglazed pottery, coloured cotton cloths, leather-work (ornamental), brass-work, illuminated manuscripts.
Mattra ...	Toys, carved wood and lacquerware, perfumes.	Silver toys, graven brass ornament, silk and cotton rope of varying colours and fineness.
Agra *City* ...	Embroidered silks and muslins, gold and silver lace, marble inlaid, carved soapstone, arms, and copper-work, tiles, furniture, basket-work, woollen and cotton carpets, cotton cloths, fans, coins.	Marble inlaid and carved, and fret-work, sandstone fret-work, carved soapstone, gold and silver embroidery on leather, silk and velvet, silk cloths, gold and silver lace, electro-platedware, life-sized figures in clay and wood illustrating types of peasant jewelry, glazed and unglazed pottery, lacquerware, feather and fibre fans, arms, illuminated manuscripts, hand-printed cotton cloths, silk, woollen, and camel's hair carpets of Persian design, cotton carpets; also a very fine collection of ancient brass utensils and implements.

District.	Agra Exhibition, 1867.	Calcutta Exhibition, 1883.
Eta ...	Cotton carpets, fibre mats.	Cabinet-work, leather-work in horse hide, glass, coloured cloths.
Mainpuri ...	Wood inlaid with brass.	Wood inlaid with brass.
Etawa ...	.....	Carved wood, glass, horn, and feather-work.
Farrukhabad ...	Hand-printed cottons, cotton carpets, woollen rugs, fibre mats, brass-work, pottery, common tiles, tents.	Hand-printed cloths from both Furrukhabad and Kanauj, wood-carving, cabinet-work, perfumes, embroidered leather, glazed pottery and tiles, Persian carpets, cotton carpets and cotton manufactures, including tents; also a fine collection of old coins from Kanauj.
Cawnpore ...	*Daris*, cotton cloths, cutlery, leather, furniture, tents, brass and iron-work (plain).	Leather-work (not catalogued), tents.
Fatehpur ...	*Ordinary brass, copper, and lock-work; cutlery, pottery, glass, carved wood, soaptone, lacquer, clay models.	Hand-printed floor-cloths and ceiling-cloths, painted wood, painted packs of cards.
Jhansi ...	Cotton cloths, brass-work.	Woollen carpets and rugs, silks, muslins, glazed pottery, brass, copper, and bell-metal work, peacock feather trimmings and fans, toys, leather-work (embroidered), arms, cotton cloths, woollen blankets, peasant jewelry.
Hamirpur ...	.....	Silver ornaments, images of Hindu deities in brass and pewter, models of agricultural implements.
Banda ...	.....	Ornaments and useful household articles in agates and moss agates, cut and polished.
Allahabad ...	Persian carpets, cotton cloths, fibre manufactures, brass-work.	Persian carpets, both from the Indian Carpet Manufacturing Company and from the jails, cotton carpets and miscellaneous cotton and other fibre manufactures, glazed pottery, lithography, printing, bookbinding, and engraving.
Mirzapur ...	Stone-carving, Persian carpets, glass, brass-work, lacquer-work.	Stone-carving, Persian carpets.

* In the 1867 catalogue there was evidently some confusion about Fatehpur and Fatehghur.

District.	Agra Exhibition, 1867.	Calcutta Exhibition, 1883.
Banares City ...	Persian carpets, cotton carpets, cotton cloth, silks, *kinkhabs*, brass, pottery, cabinet-work, basket-work, toys, clay figures, ivory-work, fibres, mats, &c.	Persian carpets, cotton carpets, cotton cloths, silks, *kinkhabs*, embroidered silk and velvet, hand-woven muslin, ivory-carving and ivory furniture, paintings on ivory and talc, brass-ware—plain, graven, and polished, enamels on gold, peasant jewelry, bead-work toys, clay figures, silver-work, arms, musical instruments, scientific instruments.
Ghazipur ...	Glass-work, perfumes.	Perfumes, cabinet-work, glass-work.
Jaunpur ...	Perfumes.	Perfumes, papier-maché ware.
Azimghar ...	Silks, silver-work, bell-metal work, glazed pottery.	Silks, satins, muslins, glazed pottery.
Gorakhpur ...	Embroidered leather, cabinet-work.	Embroidered leather, cabinet-work, brass-work.
Basti ...	Basket-work and toys.	Persian carpets (jail made).
Bijnor ...	Carved ebony, cotton cloths, perfumes, silk, fibre mats, brass-work, cutlery.	Carved ebony, papier-maché, glass, cotton cloths.
Moradabad ...	Brass-work, pottery, cabinet-work, glass, cotton cloths.	Silver-work, metal-work, cabinet-work, pottery, cotton, carpets, cotton cloths.
Badaon ...	.....	Papier-maché, wood-carving.
Bareli ...	Gold and silver-work (probably foreign), fibre mats, cotton carpets and hangings, pottery (probably Rampur).	Carved, painted, and lacquered wood-work, lock-work, scientific instruments, toys, cotton carpets, hangings, &c.
Shahjahanpur	.....	Lacquered and painted wood, lac ornaments, cutlery, basket-work, and fibre matting.
Philibhit ...	.....	Inlaid wood, furniture, and carved wood.
Rampur State	.....	Gold and silver-work, electro-plated work, painting on glass, illuminated manuscripts, richly mounted arms, papier-maché, glazed pottery, toys, Persian carpets, inlaid silver or *bidri*-ware, fine cotton damask, plain and embroidered with gold thread, fine steel wire for musical instruments, steel fish-hooks, fishing-lines.

District.	Agra Exhibition, 1867.	Calcutta Exhibition, 1883.
Lucknow City	Woollen rugs, silver-work, clay models, cotton rugs, fibre mats, and silk cloth.	Black metal inlaid with silver, black metal inlaid with gold, silver, silver-gilt, and enamelled silver-work, gold and silver lace, gold, silver, and silk embroidery on velvet, leather, silk, and muslin, hand-made muslins—plain and embroidered with thread (*chikan* work), glazed and unglazed pottery, coloured whole and in designs, brass, copper, and white metal, perforated, graven, and plain; terra-cotta figurines, life-sized clay models, perfumes, illuminated manuscript, arms, Persian carpets, cotton carpets in Persian and other designs, musical instruments, hand-printed cottons, lithographic printing and bookbinding, kite-string of singular fineness, &c., &c.
Hardui ...	.....	Silver ornaments.
Sitapur ...	Silk ...	Illuminated manuscripts, ancient rams, cotton prints, brass-work.
Barabanki ...	.....	Glazed pottery, cotton carpets, cotton cloths, toys, and a collection of fishing implements.
Bahraich ...	Felt rugs, woollen rugs, brass-work (probably foreign).	Feltings, basket-work.
Gonda ...	.....	Painted pottery, basket-work, painted leather, ivory-carvings.
Faizabad ...	Hand-woven and embroidery muslins, cotton cloths.	Hand-woven muslins, plain and embroidered lace, gold and silver-work, hand-printed and woven cotton cloths.
Sultanpur ...	.....	Bell-metal work and basket-work.
Rai Bareli ...	.....	Hand-woven muslins, plain and embroidered.
Partabgarh ...	.....	Arms and carved marble (not catalogued).

After all, this comparative statement is somewhat delusive, and too much in favour of 1867, as some of the articles then exhibited, though not so specified, were clearly loan collections of foreign articles, and were not produced in the districts credited with them. Again, a comparison by numbers would reveal how much the trust in and appreciation of exhibitions has developed: Bijnur carving, for instance, in 1867 was confined to some eight very ordinary articles,

of which three were lent by the Lieutenant-Governor; while about 300 articles, comprising the highest class of work turned out, were sent to Calcutta at the cost to Government of carriage only.

To note the improvement in each class of exhibit which appears on a careful comparison of the catalogues would take up too great space. Persian carpets are perhaps the most noticeable instance of development; and looking at the wealth of colour and design displayed at Calcutta, particularly from Agra, it is worth noticing that the best carpet from the provinces in 1867 was one from Mirzapur, valued at Rs. 165, and the next an Agra jail carpet, 24 feet by 19½ feet, valued at Rs. 98.

Moradabad metalware was then apparently represented by nine samples of brass. For Calcutta, though the cost of carriage only was defrayed by Government, some 5,000 articles were tendered for exhibition by the workmen, comprising samples of every description of the best work undertaken.

Banaras brass, Lucknow *bidri*, and the pottery of Khurja (Bulandshahr), Rampur, and Lucknow, have also greatly developed.

No doubt for some time after the Mutiny many of the arts were in a depressed condition, owing to the poverty which the war had engendered, but a revival, due partly to railways and partly to exhibitions, has taken place in most of them. There can be little doubt, from the inquiries already received regarding exhibits, that the Exhibition will be fruitful of much good, both in augmenting sales, in stirring up inquiry, and in bringing to light work which may have been overlooked on this occasion.

It is much to be regretted that the absence of details from the district lists generally has left the catalogue so barren of descriptive matter. In this connection the provinces are at a disadvantage in being without those schools of art supervised by cultivated taste in which Bengal, Bombay, and the Punjab rejoice. An interesting monograph on the trades of Lucknow, written by Mr. W. Hoey, C.S., and the short annual notices of provincial manufactures which appear in the trade reports of the Agricultural Department, and brief notes in the Settlement Reports, so far constitute the main sources of information.

That so large a collection was brought together on this occasion was mainly the result of the public spirit and

interest evinced by the municipalities of the province. That of Lucknow was the first to come forward. It was closely followed by Agra and Banaras, and at longer intervals by Farrukhabad, Saharanpur, Ghazipur, Gorakhpur, &c.

Among the private exhibitors his Highness the Nawáb of Rampur, his Highness the Mahárája of Banaras, Mirza Suliman Kadr, brother of the ex-King of Oudh, Nawáb Mahndi Ali Khan of Lucknow, Rája Bakr Ali Khan, C.I.E., Mr. J. S. Growse, C.S., C.I.E., Captain Monck-Mason, R.A., Seth Lachmi Das of Mattra, Rája Amir Hasn Khán Bahádur, Munshi Sheo Narain of Agra, Pandit Gopináth of Lucknow, and Babu Bani Prasad of Mirzapur, were conspicuous in the assistance afforded.

Some life-sized portraits of former Kings of Oudh were contributed from Lucknow to the Art Gallery, where also some of the best of the Banaras gold and silver-work and embroidered *kinkhabs* were exhibited.

It was at first hoped that separate space would have been allotted to the jail departments of the province, in which case the remarkable and varied collections sent down might have been shown to far greater advantage, so far as that department is concerned. The space at the disposal of the Executive Committee did not, however, admit of this, and the arrangement, had it proved feasible, would have caused great loss in decorative effect to the Provincial Court.

The artistic arrangement of the Court was due to Dr. Tyler, Superintendent, Central Prison, Agra.

CHAPTER XVII.

Punjab.

THE Punjab Court was intended to represent as completely as possible the actual state of the industrial arts of the province, and to show the articles for which an increasing sale is desirable.

Contributions by the Governments of Bengal and of the Punjab of Rs. 7,000 each for the purchase of articles to be retained in the permanent possession of those Governments enabled the Provincial Committee to procure a fairly representative collection of purchased articles from craftsmen, whose limited means would not allow them to contribute independently; and many of the choicest objects shown, such as the richly-carved doors and windows from Bhera and Chiniot, were specially ordered beforehand. It is to be regretted that, as the Committee was not appointed till the 31st of May 1883, and as many of the best workmen live in remote districts and work with exceeding deliberation, some of the best working time of the year was lost. Parts of the province are in the hot weather practically locked up so far as many industries are concerned. Many of the articles, too, were not seen by the President or Secretary of the Committee till it was time to despatch them to Calcutta, and no time was left for alterations or additions. Moreover, although every effort was made to minimise the trouble entailed on district officers, it was impossible to spare them as much as was desirable, considering their manifold labours. With more time at the disposal of the Committee it could have more frequently dealt directly with the craftsmen. The services of officers, however, were in all cases most freely given, and it is to their efforts that the completeness and representative character of the collection are due. It was found that many objects procured for the Committee by officers in remote districts were seen for the first time by persons whose Indian experience might be reckoned wide, while the greater part of the collection was new to the ordinary Calcutta public.

In addition to the articles purchased by the Committee and obtained through district officers, important contributions were made by merchants, manufacturers, and private persons. Among these may be mentioned articles sent by Messrs. Davee Sahai and Chamba Mal and by Messrs. Davee Sahai and Purb Dyál of Amritsar. The trade in fine woollen goods, which has long been reckoned the most important speciality of the province, was also represented by Abdulla Loan, of Ludhiána, and Lála Sáligrám, of Amritsar. Haji Malik Rahman, merchant and honorary magistrate of Peshawar, sent a consignment of characteristic importations from Kabul and Pérsia, including carpets, furs, and other articles, as well as specimens of the rustic manufactures of the Deraját. The Koftgárs, or damasceners of Siálkot and Gujrát, were only too eager to contribute; and to prevent disappointment it was decided to limit the articles to be sent by each maker to six. In spite of this restriction upwards of 500 articles were sent. From Hoshiarpur the wood-inlayers and lacquer-turners sent a large selection of furniture, brackets, picture-frames, and other articles in *shisham* wood inlaid with ivory. The miniature painters of Delhi were no less willing to avail themselves of the Exhibition, and contributed a large number of the elaborate paintings on ivory for which their city has long been famous. Messrs. Manick Chand and Messrs. Moti Ram, shawl and embroidery merchants, and Lála Sundar Lál, curiosity-dealer, with Chandra Lál, of the firm of Hari Rám Jagan Náth, of the same town, also sent specimens of their various wares, some of which were costly and beautiful. Mr. G. Smyth, Deputy Commissioner of Delhi, and Khán Bahádur Sayyid Amir Ali, took great pains in procuring examples of Delhi wares, and prepared an interesting preliminary display in the Delhi Town Hall.

The industrial schools of Kasúr in the Lahore district and of Hoshiarpur sent woollen pile carpets, cotton *daris*, and ornamental wood-work. The Mayo School of Art contributed drawings of the coloured pottery architecture peculiar to Lahore, terra-cotta sculpture, ornamental wood-work, lithographs, glazed pottery, designs for carpets, plaster-work, oil-paintings, &c. The cutlers and lapidaries of Bhera in the Shahpur district sent knives and swords, and the lapidaries from Amritsar contributed agate, lapis-lazuli, carnelian, and jade ornaments, consisting chiefly of necklaces. Silversmiths, draughtsmen, gold-lacemakers, silk-weavers, and embroiderers

from various parts of the province also swelled the list of exhibitors.

Besides the articles purchased for the Government and those exhibited for sale, loans and presentations were kindly made by H.H. the Mahárája of Patiála, H.H. the Nawáb of Baháwalpur, H.H. the Rája of Náhha, H.H. the Rája of Chamba, through Major C. H. T. Marshall, Superintendent of the Chamba State; Rai Bahádur Kanhya Lál, M.I.C.E., Ráni Kirpa Dai, Lála Karm Chand, Ráis, Amritsar; Mr. E. Nicholl, Secretary, Amritsar Municipal Committee; Sergeant Hanlon, Public Works Department, Peshawar; Lála Chandu Lal, Delhi, and others.

Sir Oliver B. St. John, K.C.S.I., R.E., on special duty in Kashmir, was instrumental in the preparation of a large collection of shawls, plain and embroidered, applications of the various forms of Kashmir needlework to articles of modern use, chased and gilded silverware, chased and engraved brass and copper articles, objects in *champlevé* enamel, gilded and silvered, *papier-maché* and painted woodware, silk and woollen carpets, felt, cotton prints and other fabrics, with samples of wines and brandies from the vineyards of H.H. the Mahárája, and specimens of timber and other raw products. It was found impossible to allot an entirely separate Court to Kashmir; and this collection, with the exception of the wines and raw products, occupied space within the area assigned to the Punjab. From Kashmir also Mr. E. Bigex brought a number of woollen pile carpets. The whole collection was sent down under the charge of Mr. E. Johnson, an officer in the employment of the Kashmir state.

The jails of the Punjab are celebrated for their manufacture of carpets, and steps were taken to represent fully an industry which has been the subject of much comment. Contributions of carpets, *daris*, *munj* matting, and paper, were received from the jails of Delhi, Hisár, Ambála, Amritsar, Sialkot, Lahore, Jhilam, Gujárt, Ráwalpindi, Peshawar, Multán, and Dera Ismail Khán.

It will be seen that although the space allotted to the Punjab, consisting of two bays on the east and two on the west side of the southern nave of the Indian Court, with the intervening space, was larger than that taken up by any other province or state excepting Calcutta, the number and bulk of the articles to be displayed was more than sufficient to fill it. There were over five thousand articles to show; and the walls, roof, and floor space, were

necessarily so closely packed that the Court was open to the criticism that it appeared overcrowded. For the decoration, a frieze of painted ornament in *tempera* on brown paper, bearing the names of the districts into which the province is divided, and measuring 144 feet in length, was prepared in the Mayo School of Art. This frieze, of which no two panels were alike, had precisely the effect anticipated, of framing in the Court with a characteristic and significant band of coloured ornament. The two western bays were devoted to the exhibition of wood-work, lacquer, &c., and carved doors and windows, rich in surface ornament, but severe in their architectonic lines, furnished a sort of façade to this section, which, surmounted by the emblazoned frieze already mentioned, and diversified by terra-cotta busts of workers in wood, and some specimens of the richly-fretted and gilded ceiling-work once common in the Punjab, was perhaps more characteristic of the province than anything in the Court. The roofs on both sides were draped in cotton prints from Kapurthála, Kot Kamália, Delhi, and Lahore. Carpets were hung wherever space was available. On the eastern side the line of the back wall was broken by a large lunette bearing in relief the arms of the Punjab, heraldically coloured and gilt, from which depended a map of the province, showing the districts, roads, rivers, railways, and chief towns, and inscribed with a brief summary of the arts and industries practised in each town and district. On this side, in glass cases, were exhibited Kashmir silver and enamel, ivory-carving, Delhi embroidery, *patoli* or gold lacework, a small quantity of jewelry, and shawls, curtains, prints, *phulkáris*, and *koft*-ware. In the nave the most prominent place was taken up by the show-case of the Egerton Woollen Mills Co., against the back of which was built a trophy of Multán and Delhi pottery. Glass cases filled with textile and other fabrics occupied the remainder of the space. To provide additional wall space it was necessary to build four partitions between the Court and its neighbours —Bombay, Madras, Hyderabad, and the North-Western Provinces. These were covered with dark red *kharwa*, and fitted with openings or gangways with ornamental door-heads. The decoration and arrangement of the Court was carried out by Lála Dhanpat Rai, clerk to the Mayo School of Art; Sher Muhammad and Ram Singh, assistant teachers; and Amír Bakhsh, student, who composed the staff working under the orders of the Secretary.

It was found impossible to display within the limits of the Court the large number of carpets sent. Permission was therefore obtained to use the large staircase of the Imperial Museum, where carpets, *daris*, and matting, were shown.

Having given a brief sketch of the general scheme and arrangement of the Court, it may be useful to pass in rapid review the various classes of objects exhibited, indicating as briefly as may be their qualities as art manufactures and their claims on the attention of the purchasing public.

The interesting school of Delhi miniature-painting on ivory, which is a survival, and to some extent also a revival, of the Persian limning encouraged at the Courts of the Mughal Emperors, was largely present in its older form of conventionalised representation, as well as in the more naturalistic modern style due to the influence of photography. There can be no question as to the delicacy of handling of these works; but they have but little of the freedom, force, and variety looked for in modern European art. They are perhaps indeed at their best when strictly decorative in character. It is a matter for regret that of the very large number exhibited not one was sold. Authentic old pictures in the Persian style, on paper, exhibited by Sundar Lál, met with a better fate. A series of Hindu mythological pictures by a Kashmiri limner living at Lahore were not without interest, and were acquired for the Bengal Government. H.H. the Mahárája of Pátiala and H.H. the Rája of Nábha also exhibited works in this class. The students of the Mayo School of Art showed views of the curious mosques and tombs in Lahore and the neighbourhood, which are enriched with a mosaic of coloured pottery. A piece of ornament embossed in paper by the finger-nails, one of which is carefully kept long for the purpose, was a specimen of one of the many puerilities which have long been popular in India. Whole books are sometimes embossed in this way.

The only examples of sculpture shown were three terra-cotta portrait busts,—one by Mr. G. Pinto, the teacher of modelling and moulding in the School of Art, and two by the Principal of that institution.

Under the head of architectural drawings were shown measured elevations of some of the buildings in Lahore and its neighbourhood by students of the Mayo School of Art, and a set of outlines by Ghasita Mistri, of the Public Works Department.

A few ornamental designs by the Mayo School of Art were the sole contributions to the lithography class, and of photographs there were only a series of twelve pictures of public buildings in Lahore and Amritsar by Rai Bahádur Kanhya Lál, M.I.C.E., Executive Engineer of Lahore.

Among objects which it was not easy to classify may be mentioned a curious piece of embroidery lent by H.H. the Rája of Chamba through the Superintendent of the Chamba state. This was worked about ninety years since by the handmaidens of the Ránis of Chamba,—probably about the same time as a similar piece now framed in the South Kensington Museum. The work is in a very fine tapestry stitch, in coloured silk, and is exquisitely wrought on both sides, the whole measuring about thirty feet, and recalling in the archaic quality of its design, though not in its exquisite execution and brilliant colour, the Bayeux tapestry. The legend illustrated is too long to relate here; but it includes deeds of daring and a good deal of slaughter with horses, chariots, and many figures. A gold medal was awarded to this interesting work.

Under the same head may be mentioned the seal-engraving of Harmán Sing and Prataáp Singh, of Sháhábád, in the Ambala district. The trade of the *mohr-kand*, or signet-cutter, is a common one, but it is almost universally confined to engraving vernacular signatures on blood-stones for the use of those who sign their names by affixing an impression of their seals. The craftsmen named above, however, have carried their practice further than usual, and can engrave crests and animals in *intaglio*, both in stone and metal, with great skill. They deserve to be more widely known.

His Highness the Mahárája of Patiála exhibited five books, including one in embossed finger-nail work. Other books were shown by Delhi curiosity-dealers. It is to be regretted that sufficient space was not available in which to display these books to advantage.

The musical instruments of the Punjab are, except a few peculiar to the frontier, all of old, unvaried, traditional forms. A few forms only could be collected for the Exhibition, both time and inquiry being necessary to produce a complete collection. The most popular of all instruments is the *sitár*, a sort of lute, which is made in various forms, all

having a general similarity, *e.g.* the *madham*, the *charga*, and the *tarbdár*. Of these the *madham sitár*, which has five, or sometimes six, strings of steel and brass, is the commonest. It is a fretted instrument, and the sixteen frets are not fixed, as in the guitar, but are moveable, and are arranged for the particular *rág*, or melody, by the performer. The *charga sitár* has no frets, and only four strings. The *tarbdár* (like the *bin*) has an understrung set of five steel wires, which are sympathetic, or jingle in sympathy with the upper strings. The *táus* is a many-stringed instrument, the body of which is shaped like a peacock. It is played with a bow of black horse-hair. The *bin* is an instrument played with the finger guarded by a *mizrab*, or wire thimble. It consists of a long narrow board with the pegs at the end, having the disc fretted and supported on two hollow gourds for resonance. The drone or jingle is given by a set of five sympathetic strings. There is another instrument called *bin*, which is not to be confused with this. It is a rude double flageolet inserted into a small gourd, and being played by snake-charmers and beggars, is often distinguished as the *binjogi*. A decorated example was exhibited.

Other stringed instruments—the psaltery and the *kanun* or harp—are now very rare. A quaint and curious instrument is the *saringi* or fiddle, a very beautiful specimen of which was included in the collection. In this the strings are made of cat-gut, but the resonance strings are of thin brass wire. Wind-instruments capable of variety of tone hardly exist, other than the *bin*, rude *sarnas* or bagpipes, and several small flutes. Various trumpets and horns are used in Kangra. There are also horns, conch shells, &c., but all these give only one or two notes, are harsh and discordant, and cannot be classed as musical instruments.

The only system of music known is the Hindu, which has a seven-note scale, approximating to our own. The stringed instruments are all tuned to one modification or repetition of the key-note (*khirj*).

In the class of furniture and upholstery a great variety of work was shown, some of which was catalogued under the head of lacquered, wood, and inlaid work. The chairs and camp furniture of Guzrat are perhaps the best known articles in the class. Examples of all these were shown. The trade seems to be increasing; and as the workmanship is good and the prices are moderate, it

deserves the encouragement which it receives. It is scarcely necessary to say that, like other Punjab handicrafts, this is of recent introduction. The cheaper forms of chair were not shown, but there is a large production at Kirtarpur, in the Jalandhar district. Tables made of *shisham* wood inlaid in geometric patterns by Nizám Dín of Lahore, a stationery-cabinet and an occasional table, both carved and inlaid in Arabic designs, by Maula Bakhsh of the School of Art, and inlaid work by the Kasúr School of Industry, were noticeable as examples of good oriental ornament applied to every-day use. A cabinet or sideboard in inlaid work, and the geometrical wood-framing common in the Punjab, similar to that seen in Arabic moucharabiehs, was perhaps the most complete work of this new school (which is really only a revival of the old), but it was considered to be spoilt by the introduction of coloured plaques of Hyderabad lacquered ornament. The Hoshiarpur *shisham* wood furniture inlaid with ivory was shown in large quantities. This craft owes much to the exertions of Mr. W. Coldstream, formerly Deputy Commissioner of the district. It is satisfactory to know that not only were the goods exhibited in this class sold, but that extensive orders for similar goods were secured. It is precisely at this point, however, that the difficulties of the foreign merchant or dealer begin; for hitherto the artisans have been in the habit of working in an irregular and intermittent fashion. There is no great harm in this so far as the native demand is concerned, but a want of punctuality and despatch is a most serious drawback from the European merchant's point of view. A sign of a demand moreover is the signal for a sudden and unreasonable rise in price, which not unfrequently puts an end to all dealings. The merchant has neither time nor patience to bargain in the usual Punjab fashion, and the artisan frequently retires disappointed and crestfallen from a negotiation suddenly broken off by a would-be purchaser averse to haggling about prices. For wood-carving also, which was well represented, there would be a great demand if the artisans were more accessible, and if purchasers could rely on orders being executed within a reasonable time and at a reasonable price. Several important orders have been given from articles in the Exhibition. As to the distinctive character of Punjab sculpture in wood, it is strictly—almost sternly—architectural and decorative. Figure-sculpture in either wood or stone has never, owing

to the Muhammadan ascendancy, flourished, but there is no art for which both Sikh and Musalman show more aptitude than carven ornament. The introduction of panels of framed geometric lattice-work, locally known as *pinjra*, and mentioned above, gives an Arabic character to the designs. The door and window from Chiniot received a gold medal, and the carvers of Bhera and Batála were similarly rewarded.

The only exhibits under the head of glass were some bangles from Delhi and small coloured vessels from Hoshiarpur. Fuel and glass-making materials are alike scarce. There is little or no use in native life for glass, except in the form of bangles, and European products are imported of a quality and price which defy the efforts of native workmen.

A striking and beautiful application of glazed pottery to architectural wall decoration is found on the mosques and tombs of Multan, Lahore, and other towns of the Punjab, and also in Delhi and Agra. Local legend, which is probably true, ascribes to the art a Chinese origin, but it appears to have been directly introduced into Northern India from Samarkand and Persia. The variety known as *kashi*, a mosaic of pottery, where each leaf and form is separately cut out and fitted, is no longer practised, and may be said to be extinct. But at Multán, although there are few colours used, glazed *faience* tiles, little inferior to the old work, are produced. This is perhaps the best pottery now wrought in the province. Originally exclusively architectural, an European demand has led to the employment of pottery for vases, salvers, and other articles for drawing-room decoration. A large selection was shown by Muhammad Azim, of Multan, and some experimental efforts by another local potter were exhibited. The colours used are now usually dark and torquoise blue on an opaque white enamel slightly tinged with blue.

At Peshawar a rough *faience*, composed of a common reddish yellow earthen paste or body, covered with a white *engobe* or slip, and a soft lead glaze, is made. All over Kabul fragments of pottery of a similar manufacture, but of better quality, are found. The typical piece is a large, shallow, circular rice-dish. On the frontier it is customary to eat from this glazed earthenware—a practice which is comparatively unknown elsewhere in India. Sergeant Hanlon, of the Public Works Department, exhibited some panels of tiles of a fine quality of glaze and colour.

The Delhi pottery, which was shown in some quantity, is of a different type, and the paste or body is not a natural clay, but an artificial composition of pounded felspar, held together for moulding by a *massala* of gum or mucilage. The articles, therefore, are shaped in moulds, and are exceedingly fragile. When, however, the wares are well burnt, a sort of vitrifaction takes place. The best examples are semitranslucent, and are, in fact, a true porcelain. The trade is a rising one, and the demand, both for Europe and for the Anglo-Indian market, is so great that nothing but a little energy on the part of the artisans is required for the creation of an important industry. The paste of some of the old *kashi* work mentioned above is similar in quality, and the Delhi manufacture was at one time probably, like that of Multán, exclusively architectural in character. The manufacture of *martabans*, or jars for the pickles and preserves, which are a local speciality, seems to have kept it alive. But the ware was unknown in England till 1871, when Mr. Kipling took a quantity of jars to the Exhibition, since which time its manufacture has greatly advanced.

At Delhi a local artisan makes models of snakes, used for distribution to district officers for the easier identification of serpents for whose destruction rewards are offered. A collection of these in terra cotta, coloured in water colours, was shown.

The terra-cotta figurines made at Krishnaghar, Lucknow, and other places, are imitated here; and this art, which is really a foreign importation, is now considered a characteristic Indian craft. A series was shown from Ambála. The highest finish of which unglazed soft earthenware is capable was displayed in a set of articles contributed by his Highness the Nawáb of Baháwalpur.

A small collection of glazed and unglazed ware from Lahore showed the characteristic forms of the pottery usually sold in the bazárs of large Punjab towns.

The Mayo School of Art, Lahore, showed the results of some experiments in glazed pottery. Examples of Ghorian ware, the best of which are interesting relics of the time of the Mughal Court, when Chinese porcelain and Persian imitations of it were imported for imperial use, were also shown. The white and coloured Chinese porcelain exhibited from Delhi also claims on this ground to be considered of historical interest

The first place among the metalware exhibited belongs to the brass and copperware, which fill an important part in native domestic life. It seems to be accepted as an ordinance that brass is to be used for the cooking and eating-vessels of Hindus, and copper for those of Muhammadans. It is on this domestic usage that the skill of the Indian metal-worker is founded, and it would be pedantry to attempt to separate purely artistic from merely domestic wares. In the simplest utensils of the native kitchen are found some touches of the quality which makes the richly-chased *surâhi* or *guldbpâsh* an ornament for the drawing-room or a study for the designer.

The selections of brassware from Riwari, Jagadhri, Phugwara, Delhi, Pindádan Khan, and Amritsar gave a fairly complete representation of the present state of the brass-founder's and chaser's art in the Punjab. These towns and one or two others are growing into note as manufacturing centres exporting their wares. The worker in sheet copper, who fashions his vessels with the hammer, is known as the *thathera* (beater) or *thathiyár*. His tools are simple, consisting chiefly of differently shaped anvils or stakes, which are frequently supported in the crook of a Y-shaped wooden frame, athwart which he sits at work. Some of this hammer work is exceedingly skilful, especially that made at Delhi, where curved, cup-like forms are beaten out of flat plates without a joint. The brass-founder, *bhartiya*, uses processes which differ in no essential point from those of Europe. Examples of castings, both fresh from the mould and half-finished, were shown from Amritsar. A brass water-jar from Amritsar was one of the largest pieces shown. The engraver or chaser works exclusively with hammer, chisel, and punch, and does not use the graver or *burin*. The tendency of modern chasing is towards an uniform covering of the surface in light lines. Some wares from Jhílam, however, were in a bolder and better style. From Peshâwar were sent *aftâbas*, the ornamentation and shape of which showed strongly their Persian origin.

The Kashmir style of engraved copper, specimens of which were also shown from Amritsar, is so characteristic as to be at once recognised. The forms are sometimes filled in with lac grounds of different colours, and the patterns recall those of the Kashmir shawl. A commoner sort of graven work is done on tinned copper, through the dull white of which the red line of the metal below appears.

The metal-bound leather *hukka*, used extensively by working people and agriculturists, whose avocations subject the cherished pipe to rough usage, seems to be peculiar to the Punjab. Examples were shown from Hissár, Sirsa, and Kasúr, the latter being in perforated brass, silvered, while the former were built up of zones and fillets of metal roughly engraved. The articles used in Hindu worship, such as the *árti* or sacrificial lamp, the *thálí* or dish in which idols are bathed, the spoons for oil and Ganges water, and the idols themselves, are usually imported from Mattra, Benares, or Brindában. Some were also shown from Delhi and Amritsar. There has never been any production of figure-casting in the north of India equal in quantity to that of the south. The idols from Amritsar are curiously primitive and poor in design; nor is there any likelihood, now that the Hindu is free from the Muslim yoke, that any improvement will take place in this respect. *Kánsi*, or white brass, is prized for cups and other articles; and a *ganj*, or nest of a dozen well-fitting, neatly-finished bowls in this material is one of the show pieces of the artificer and the treasure of the house-keeper. The consumption of brass and copper in the province may be estimated from the trade returns. In the year 1882-83 there were imported into the Punjab from other parts of India by rail and boat 65,468 maunds of brass and copper, worth Rs. 40 per maund of 80lb. The bulk of the supply, 39,734 maunds, came from Howrah. From Sindh were received only 7,940 maunds, from Bombay 1,980 maunds, and from the North-West Provinces and Oudh *viâ* the East Indian Railway 11,232 maunds. The greater part of this supply, which came in the first place from Europe, was in the form of sheets, and was used for domestic purposes. Riwari, Jurdiála, Gujránwála, Jagadhir, Amritsar, Pindádan Khan, Kángra, Phugwára in the Kapurthála State, and Daska, a tahsil in the Siálkot district, are the places most noted for brass and copper manufacture.

It is not easy to determine whether the stone-handled cutlery of Bhera in the Sháhpur district should be classed under the head of lapidaries' work or of cutlery. The same artisan practises both trades, forging and finishing the blade and fashioning the false jade or serpentine hilt of the *peshkabz* or of the hunting or dinner-knife. Other stones resembling Purbeck marble are used by the lapidary cutlers of Bhera in the manufacture of knife-handles, toys, paper-weights, and other small objects. The production

is larger than the demand at remunerative prices. The *jauhar* or 'water' of Persian smiths' work, so much prized on old blades, is imitated by a rough process of etching. A ground of fine lime, mixed with a suitable mucilage, is laid over the blade, and when nearly set the thumb of the artificer is dabbed over the surface, with the effect of removing the lime in lines, which have a certain resemblance to the fibre lines of welded and twisted steel. *Kasís*, or sulphate of iron, is then applied, and the lines are bitten in. No expert, however, could be deceived by these marks, in which the grain of the thumb is clearly manifest on close examination. Swords and the Afghan knife or *peshkabz* are made on the frontier, and some were exhibited by Háji Málik Ráhmán, of Pesháwar. It is not easy to decide in some cases whether these swords and knives are of local or Kabul manufacture. Old blades are now carefully collected, rehilted, damascened, and sold to collectors.

The baskets sent from the Punjab were exhibited in the Economic Court. The best and neatest work of the province is wrought in the hills, and, like coarse woollen-cloth weaving, is a domestic industry. The slender *ringal* bamboo is split into fine slivers; and baskets for holding small articles, notably yarn reeds, used in weaving, are neatly made. The *kilta*, a long basket carried on the back, and made of bamboos and other flexible woods, is the most characteristic form. A selection of baskets, including some small and finely-finished examples, was shown from Kotgarh. From Kalka an open work variety of basket with broader splints was sent.

In the plains, in the Muzaffargarh and adjoining districts, the *patta* or dwarf palm (*chamærops Ritchiana*) is used in the construction of baskets, which are built up in rows of rolls, usually in forms resembling *gharas* and other vessels. Similar baskets made of dyed fibres are imported into Bombay from Zanzibar. In the Hazára district wheaten straw is similarly treated and made into fancy baskets, card-trays, &c., which are decorated with bits of coloured cloth. Examples of both these kinds were exhibited. At Delhi and Ambála tiffin-baskets, ladies' work-tables, and waste-paper baskets, are made of split and sometimes rudely-dyed, bamboo. This is a comparatively new and rising trade. Little cane is used, and there are no Chinese basket-makers in the province. The *chháj*, or winnowing-basket, is the type of another form of basket-work extensively used in agricultural operations

and in domestic life. The long stalks of *munj*, which will not bend and intertwine, are arranged and tied together in rows with string or raw hide.

Ivory and brass inlay is one of the manufactures of the Punjab which have been revived and extended in the last few years. In the Provincial Exhibition of 1863 this work was only represented by a few boxes, which did not attract much attention. Now the workmen of Hoshiárpur drive a considerable trade in ivory inlay, especially at the village of Basi Ghulám Husain. Several workmen combine in the execution of the work in which *shisham* (*Dalbergia sissoo*) wood and ivory are employed. A small edging of ebony is occasionally introduced to set off the ivory.

Brass inlay is also practised in Hoshiárpur, but perhaps the best work comes from Chiniot. The brass employed is thin plate, and has to be cut with precision and neatness. The brassware inlay characteristic of Mainpuri in the North-Western Provinces and other places is not practised in the Punjab.

Wood inlay is understood to a limited extent by nearly all the more skilful *mistris* or carpenters of the Punjab. These employ box and other white woods upon *shisham*, or the latter upon the yellow deodar. It is said that very few specimens are to be seen surpassing the artistic work of the Mayo School of Industrial Art. Rám Singh, the head carpenter there, has done some beautiful work, and boxes tastefully inlaid with the geometrical tracery, which is peculiarly adapted for display in this style, have been made by some quite young pupils of the school. The Kasúr Industrial Society sent inlay work, as did a carpenter in the employ of Rai Bahádur Kanhya Lál, M.I.C.E., Executive Engineer. Recently an inlayer of Sháhábád in the Ambála district has successfully turned out small wares decorated with the *piqué* inlay so well known in Bombay. The Exhibition has been the cause of a considerable demand for Hoshiárpur inlaid wood-work for the London market.

Native house furniture is exceedingly simple, being limited usually to a bedstead, one or two low stools, a spinning-wheel, and a few boxes. A part of each marriage outfit in the Punjab consists of a *chárpái* and a quaint high-backed stool of turned wood ornamented with coloured lac. Very little painting on wood is now done, and the lac surface obtained by pressing what is virtually a stick of coloured sealing-wax on an object revolving in the lathe

is a harder and more solid covering than any paint. The heat developed by friction melts the lac, and further friction with the dry stem of a palm-leaf, held endwise, and a final application of an oiled rag of muslin, polish a coat of colour which resists dust, the great heat of the hot weather, and the damp of the rains. There are, however, many refinements in this most simple art. In Sindh and in the Punjab coats of coloured lac are laid one upon the other and are scratched through with a style in a manner analogous to Italian *sgraffito* wall decoration. Supposing red to have been first laid, then green, and lastly black, the black is scratched through for green leaves, the green and black for a red flower, and for a white line all are cut through to the wood. A red and green pattern with white outlines on a black field is thus produced. A set of 21 objects by Suraj Dín, of Firuzpur, displayed the best sort of pattern-scratching. A couch and a bracket in which the art was applied experimentally to articles of European use by Bahádur of Pakpattan, in the Montgomery district, where lac-turnery constitutes a considerable industry, were shown. At Dera Ismáil Khán fern-like scrolls of almost incredible minuteness are wrought on a black ground in red. Much of this work is done by women. The Dera Ismáil Khán work is readily distinguished by the application of ivory studs and ornaments, which are fragile, and only loosely fastened. The Hoshiárpur work, of which a large series was exhibited, is remarkable for the vividness of its colours and for the practice of using metallic grounds and filling in scratched outlines with lac of various colours. There are very few villages or towns in which a *kharádi* or turner is not to be found; but the places mentioned, with Sahiwal in the Sháhpur district and Jampur in the Dera Gházi Khán district, have an export trade. At Dera Ismáil Khán the wood used is generally *shisham* (*Dalbergia sissoo*), and when only the hard heart-wood is taken the ware is proof against insects. This wood is also used at Hoshiárpur. At Pakpattan the Lombardy poplar (*Populus euphratica*), a white, non-resinous, insect-resisting wood, is used. Some lac-turners, like Suraj Din, prefer the common tamarisk to anything else.

The painted and gilded bed-legs from Delhi and the painted bows are only lacquered in the conventional sense, being painted work protected by resinous varnish. Lacquer-turning is common all over India, and might advantageously

be applied to furniture for European use; but it is seldom employed in this way.

Ivory-carving is not an art which flourishes in the Punjab. At Amritsar great quantities of combs, paper-cutters, and card-cases, are ornamented with geometrical open-work patterns of some delicacy of execution, but of no great interest in design. Figure-work, as before remarked, is but seldom wrought in the province, owing to the predominance of Musalman notions. Messrs. Davee Sahai and Chumba Mal of Amritsar exhibited some good specimens of Punjab ivory-cutting.

Some *kalmdáns* (pen-cases) and small wares are made in *papier-maché* in Kashmir and painted in water-colour, which is afterwards protected by varnish. The words *papier-maché* have come to be applied indiscriminately to articles decorated with shawl-pattern painting, the greater part of which are of wood. The work is too well known to need description. Imitations are occasionally produced in the plains, but the articles met with in the course of trade, of which the selection shown on a trophy round the central pillar of the west side of the Court was a fair sample, were purely Kashmir products. These included ornamental shelves, teapoys, caskets, stationery sets, cigar-cases, vases, models of boats, salvers. This pretty ware does not seem to be permanently attractive, and is not very saleable.

Under the heading of decorative work the examples of ceiling-work from Amritsar were worthy of attention. Of these, three were combinations of plaster modelled by hand in relief, with small mirrors. Sometimes the mirrors are discs separately framed, but sometimes small pieces of mirror are framed in arabesque scrolls wrought in white plaster. The mirrors are blown in thin globes, which are silvered on the inside and then broken into fragments. There are numerous examples of this beautiful, but laborious, form of decoration in the old buildings of the Punjab. The fourth specimen was entirely of wood. This variety is formed of small pieces of wood of geometric forms, such as hexagons and triangles, which are prepared and painted separately, and afterwards put on the ceiling, where they are held together by strips of raised moulding. The effect is exceedingly rich, while the work is not so laborious as might be imagined. In Cairo there is a greater variety of patterns than can be found in the Punjab, whence, however, several

fine ceilings have disappeared of late years. The ornamental moulded work in paper shown by the Mayo School of Art may be noted. A wainscot in coloured and gilded paper, a screen, and a shield representing the arms of the Punjab, were specimens of this variety of decorative work. The common paper of the country is particularly suitable for this purpose, being easily pressed into moulds with paste, and being, when dry, nearly as hard as wood.

It has been said that the Punjab jails have injured the indigenous industry of carpet-weaving. It would be more true to say that the industry, so far as it exists, is due to them. It was not until the Exhibition of 1862 that the carpets of the Punjab were known beyond the borders of the province, and those which then came to light were the productions of the Lahore jail, executed for a London firm. No specimens exist to show that the only indigenous carpet industry of the province—that of Multán—was of either artistic or commercial importance. The success of the Lahore jail led to the introduction of the manufacture into other jails, and it has now been taken up by independent persons. The series shown at Calcutta by the Punjab jails was of unusual excellence, including copies of Persian originals in the possession of the Jaipur State, and examples of the more familiar patterns, known as Harati shawl, *rumál*, and others. The specimens exhibited included carpets of various qualities, from the finest to cheap textures. The Delhi jail exhibited a reversible rug with a different pattern on each side. The industrial schools of Hoshiárpur and Kasúr displayed specimens of their productions. Messrs. Davee Sahai and Chamba Mal, who have an extensive manufactory at Amritsar, showed their own fabrics as well as importations from Bokhára and elsewhere. From Multán were sent coloured carpets of great strength and solidity of texture. The characteristic blue and white carpet, which seems peculiar to this indigo-growing centre, and is familiar both in woollen and cotton pile, was not represented.

Háji Málik Ráhman, of Peshawar, showed imported Turkomandi rugs, a small Persian carpet of great beauty of texture and colour, and large Persian and Turkomandi carpets of coarser quality. The warp of these foreign fabrics is generally of wool instead of cotton. Coloured felt rugs were sent from Bhera, in the Sháhpur district. On the Dera Gházi Khán frontier finely-coloured rugs and

camel-bags are woven by Biluch women. The texture is somewhat harsh, but the patterns are harmonious and good, and the fabric possesses great durability. Some of the camel trappings are decorated fancifully with white cowries. Like Central Asian carpets and other fabrics produced by pastoral people, these are sometimes apt to "buckle," *i.e.*, they do not lie flat. The loom with the carpet on it is rolled up and carried away as the flocks are moved to fresh pastures. It may be noted that rugs and saddle-cloths precisely similar in texture and pattern, and similarly decorated with shells as ornamental tassels and fringes, are found in the Balkans. In Central India and the Deccan the Bunjára women weave clothing and pack-saddles for bullocks in textures and patterns almost identical with this Biluch work.

The Cashmere *gabba* is an embroidered rug formed by cutting out forms in woollen cloths of various colours, which are inserted and counterchanged like the *opus consulum* of mediæval times, the edges and field being worked in a large embroidery stitch in suitable colours. Examples of these and of the embroidered *namdas* or felt rugs peculiar to Cashmere were sent. In the latter a square or oblong piece of felt is worked over in coloured silk or wool with a bold outline pattern, and is thus rendered more durable.

Woven cotton *daris* were shown from several jails. The cheapness and solidity of these goods are their great recommendation. Dyed cotton so quickly tones down in colour that their frequently excessive brightness is not so objectionable as may at first appear. The *munj* matting dyed and woven at the Delhi jail was perhaps the best and cheapest floor-covering of its kind exhibited.

Koft or damascene work is not in an altogether satisfactory condition. It might be improved in its application and in its methods, and especially by the restoration of the more ancient method of incised or deeply-laid damascene. The Punjab work is all made by simply scratching the pattern on a steel or blued-iron surface, after which the fine gold wire, being caught and held in place for a short length at a time by the rough edges of the style, is first hammered in and then rubbed down with an agate point. The art, which is of foreign (probably Persian) origin, and seems to have been introduced in Muhammadan times, became popular in the Punjab, especially at Lahore, when the demand for inlaid arms

and armour for the Sikh nobility was at its height. The best workmen came from Kabul and beyond and settled at Lahore, where two or three of the class still remain, their work being superior both in taste and execution to that of the Gujrát and Siálkot workmen. About 500 specimens of this industry were exhibited, but, partly on account of the excessive prices asked, few sales were effected.

The varieties of decorated metal-work produced in Kashmir are chased silver, parcel gilt or plain, silver enamelled in vitreous enamel and gilded, chased copper, silvered, gilded, enamelled, and plain brass and copper engraved and filled in with counterfeit enamel in coloured lac, and copper chased, tinned, and filled in with a black ground resembling *niello*. Examples of all these were exhibited by H.H. the Mahárája of Kashmir through Colonel Sir Oliver St. John, two large vases and salvers made in pieces in enamelled and gilded copper being especially noticeable. Messrs. Davee Sahai and Chamba Mal, and Messrs. Davee Sahai and Purb Dyál, also showed these varieties of Kashmir metal-work, which are sent in quantities to Amritsar. The designs are of two schools, one of which is purely Persian and comparatively simple, while the other affects the elaborate modern shawl-pattern style. There is a large and fairly regular demand for these articles, which in point of finish were perhaps the best in the Court.

Special mention should be made of the copper plates wrought in *repoussé* ornament in the Italianised arabesque peculiar to Sikh work. The upper part of the golden temple of the Sikhs at Amritsar is plated with such panels heavily gilded, while the doors are sheathed in silver *repoussé*.

There was considerable artistic merit in many of the cotton cloths woven in colours. Among these the checked *khes* of Leiah, in the Dera Ismáil Khán district, takes a high place, both for solidity of texture and appearance. From Muzaffargarh good specimens were also shown. The *gamrúns* of Ludhiana are largely used for summer clothing. There are comparatively few combinations of cotton with coloured silk and gold edgings like the *saris* made in the Bombay presidency at Ahmadábád, Surat, and Yeola, and none exhibiting the delicacy of ornamental gold and colour edging for which the Bombay goods are notable. Gold ends with bars of colour are worked in turban pieces, called *lungis*, at many places. The Kohát *lungí* is richly ornamented at the ends with coloured silk bars and stripes, something like the

familiar Algerian stripes. The pattern is known as the Burgash *lungi*, and it is distinctive, like the check of a Scottish tartan, of a particular *khel* or clan. It is adopted as the turban of a frontier regiment first raised by Sir John Coke. The fine *tanzaib* muslins of Rohtak, the highly-glazed *ghatí* or long cloth of Jalandhar, which until the introduction of European goods was the material for the full dress of persons of quality, and the *chautahis* of Batala, are characteristic examples of the finer class of cotton goods produced in the province. The *susis* (striped and checked goods) from Batala and Khwushâb were specimens of one of the most favourite fabrics for native wear. The greater proportion, however, of the cotton-weaving of the province is that of stout cotton cloth for rustic wear. The Jhang district exports large quantities to Kabul.

There are few crafts more widely practised than cotton-printing, which is found alike in the small villages of remote districts and in large towns. At Kot Kamâlia, in the Montgomery district, and Sultánpur, in the Kapurthála state, two comparatively insignificant places, the best work is produced. Some specimens of each were shown on the ceiling of the Court. The printing is done, of course, entirely by hand, and the dyes used are indigenous in nearly all cases. The patterns vary considerably. The cloths of the Ambála district are woven in narrow widths, in diapers or stripes, and are principally sold in the hills. The Sultánpur work is often in two colours only, a terra-cotta red on a salmon or ivory ground, and is eminently suited for wall hangings and dados. Other examples came from Lahore, Multán, Hasn Abdul, Siálkot, Amritsar. Among the Kot Kamália *pardas* was an example of hand-brushwork aiding the block in the production of a large tree. The result resembled the hand-painted *persiennes* of a hundred years ago imported from Persia. The chief native use of cotton print is for *ahras*, or large oblong quilts, which, wadded with cotton, form winter wraps. It is now, however, largely used for lining the walls of European houses, and no other means of decoration produces so warm and rich an effect at so little cost. The dyes used in the printing keep insects from the cloth, which when tightly stretched is not found to harbour dust. The trade, which has greatly improved of late years, received an impulse from the Punjab Exhibition of 1881-82.

Another variety of fabric eminently suited for decorative purposes is that printed in gold and tinsel at Delhi, Kángra, Rohtak, Lahore, and other places. This is printed with wooden blocks in a *masala* chiefly composed of glue, which serves as a size, on which gold, silver, or tinsel leaf is applied. The natives use it for wedding gear, but it is coming into favour for *portières*, curtains, and panelling in English houses. Another curious variety of colouring, which, though not cotton-printing strictly so-called, may be conveniently noted here, is the lac and colour painting on red and blue cotton fabrics produced in the Pesháwar district. Blocks are not used, but red, yellow, and other colours are applied in a thick, sticky pigment in bold semibarbaric patterns, on which, as they dry, *abrak*, or powdered talc, is sprinkled. Examples were shown by Háji Málik Ráhmán, of Pesháwar. It should be noted that the common belief that most of the colours used in native cotton-printing are permanent is incorrect. No glazing is applied to coloured work, as in Persian, Masulipatam, and English chintzes. Cotton-printing is one of the crafts which has received a distinct impetus from the Exhibition, and the demand is now greater than the supply. As a consequence of the demand, the prices have been raised. This is inevitable, and within due limits desirable; but in too many cases it is to be feared that an unreasonable enhancement of prices will kill the demand.

The Mahárája of Kashmir was the largest exhibitor of woollen fabrics and shawls. His Highness sent a consignment which comprised shawls varying in value from Rs. 600 each to Rs. 30. Applications of the characteristic shawl embroidery to *portières*, the design of which reverted to early Persian patterns as seen on chintzes, were produced under the direction of Sir Oliver St. John, and attracted the attention of those interested in such fabrics. Other specimens were in a larger and bolder stitch. The trade in Kashmir shawls proper fluctuates greatly. The exports from Kashmir in the years 1880, 1881, and 1882 were valued respectively at Rs. 21,50,000, Rs. 10,88,000, and Rs. 11,31,000. As a rule, it may be said that the fabric is too costly in proportion to the appearance it makes.

The introduction of aniline dyes, and especially of the coarse crimson known as magenta, has done a great deal to injure the design and appearance of shawls. The Franco-German war, which put an end to the Parisian

demand for Kashmir shawls, greatly affected the trade, and the adoption by the upper classes of Bengal and the North-Western Provinces of European broadcloths for cold-weather wear has also had a bad effect on the production. Large numbers, however, are still worn in India by conservative native gentlemen; and with all its drawbacks the shawl trade of the Punjab is still important and valuable. Amritsar is a keen rival, commercially speaking, of Kashmir, and the woollen industry of this important city was well represented by the firms of Davee Sahai Chumba Mal, Davee Sahai Purb Dyal, and Salig Ram; while from Ludhiana and places in the Gurdáspur district, where woollen manufactures exist, examples were sent of the various sorts of shawl and woollen cloth-weaving.

The most popular form of shawl for European use is usually plain, being that known as the Rámpur *chadar*. This shawl is of thin, plain, single thread or twist *pashm* in white, red, and other colours. It may or may not have a shawl border or embroidered corner-pieces. The value varies according to quality; and as people are in the habit of demanding cheapness, the use of a soft wool called *wáhab sháhi*, imported from Kabul, to adulterate or replace the real shawl wool is not uncommon. The name Rámpur is derived from the fact that in former years some fine blankets or shawls made of the soft sheep's wool of the Bashahr valley of the Upper Sutlej, the capital of which is Rámpur, used to be sold at Ludhiána, and the *pashm chadars* now sold, which are an improvement on these, have kept the name. The price of a Rámpur *chadar* ranges from Rs. 25 to Rs. 250.

Other fabrics of *pashm* or shawl wool are much in demand, such as the plain cloths called *alwán* or *yaktára*, which are fine soft cloths, of thin twisted thread, and properly speaking unfelted. *Malída*, as the name implies, is a thicker cloth of coarser thread, felted or fulled with the *ritha* soap-nut (*sapindus detergens*) and water till the threads are no longer distinguishable. From the hills, where the goods made are more valued for use as a protection against wind and cold than for beauty, some characteristic blankets and other cloths were shown. In these regions woollen-weaving is more a domestic than a commercial employment. From Peshawar were sent admirably made *malídas* worked up into *chogas* and embroidered. The woollen cloths, such as railway-rugs, blankets, and broadcloths, shown by the

Egerton Woollen Mills Co. of Dhariwal, near Amritsar, though Punjab manufactures, are not to be compared with the hand-loom fabrics of the province. They are woven of local wools, and of staples imported from Australia, in English power-looms, under the general superintendence of skilled English foremen, by the aid of water-power obtained from the Bari Doab canal as it falls towards the plains. These mills give employment to large numbers of native workpeople, and the cloths produced are coming into popular use, and are also worn by the army and police. Samples of all the kinds made were shown, and they bore comparison with purely English fabrics.

Silk cloths are woven at Lahore, Amritsar, Multán, and Baháwalpur, and in small quantities at other towns. The Lahore silks are commercially the best known, and a complete collection was exhibited. These fabrics are deficient in lustre, not always pleasing in colour, and narrow in width. The prices range from annas 12 to Re. 1 per yard. White turban pieces are about Rs. 3-12 per piece. The Multan work is more attractive, and the Baháwalpur variegated silks, which are woven in checks or stripes with different colours, and occasionally with gold thread worked into the pattern, are, in spite of their want of lustre, the best specimens of silk-weaving produced in the province. Samples of Persian silks, especially of the *khudbáf*, a richly-figured variety, were shown. H.H. the Mahárája of Patiála and H.H. the Rája of Nábha showed specimens of silk woven in their territories. Baháwalpur produces *sufi*, or mixed silk and cotton fabrics, the wearing of pure silk being forbidden by the letter of the Muhammadan law. Although there is a local trade in silk cloths made in the Punjab, there is no large export.

The *phulkári* (flowered work) or silk broidered *chadar* of the Punjab is wrought in many districts, being perhaps best made in Hazara and similar outlying regions, where the traditional patterns are strictly followed. Since the Punjab Exhibition of 1881 a considerable trade has arisen at Amritsar and in the neighbouring villages, where women of nearly all castes occupy their leisure in this work. The best *phulkáris* are wrought on cotton cloth of country manufacture, dyed in various shades of dark and light red, of indigo or black. The silk used would be called filoselle in England, and the colours are usually black, gold, orange, lac-red, somewhat crude greens, and recently some raw and unpleasant

aniline mauve and magenta hues. There are no curved forms in the patterns, and the stitch, which is long and straight, is carried across the field in diapers, herringbones, chequers, and zigzags, in such a way that it is unnecessary to trace the pattern first, the spacing being done by eye, or, in fine work, by counting the stitches of the ground. English Turkey red is occasionally worked upon, but the fineness of the cloth is rather a disadvantage than otherwise; one of the points of this work being the contrast of the lustrous silk with the deep, rich texture of the country-made cotton fabric. None of the modifications indeed which have been introduced by people in search of some trivial novelty of treatment have turned out improvements. Industrial and mission schools have succeeded in producing Europeanised versions of the *phulkári* of quite astonishing hideousness; and it may be broadly said that the more primitive the district, the better the work. In some cases the whole field is hidden by a diaper of gold or orange-coloured silk with admirable effect. In others gold-coloured lozenges with red flowers are thinly powdered over the dark ground. The variety of pattern, however, is practically as endless as that of the kaleidoscope, and it is no wonder that this agreeable and comparatively cheap material is greatly in favour for decorative purposes. The *shishdár* (looking-glass) *phulkári* has small, circular, slightly convex mirrors sewn in the pattern, which produce a quaint and fantastic effect. The same work is applied to bodices, drawers, and petticoats for women. Pretty bags are embroidered in the Hazára district; but as the work is there an exclusively domestic occupation, it is not always easy to procure them. In judging a *phulkári* for texture and workmanship, as it is worked from the back, the back should be examined for evenness and fineness of stitch. No frames are used, and the darning, so to speak, should be without buckle or stretch. At Amritsar the work can be procured on any size or shape of cloth for special uses if ordered through the local shawl-merchants. The silk varies much in quality, and should be carefully examined by the purchaser. The prices range from Rs. 5 to Rs. 20 for the ordinary *chadar*. The *chop*, a variety with a deep border and plain field, is effective for some purposes. Some hundreds of *phulkáris* were exhibited, but the space was insufficient to allow of the display of the variety of patterns. The work is now imitated in Madras and Bombay for curtains, mantelpiece-borders, and table-

covers. In the Hissár and Sirsa districts curious and characteristic *phulkári* work is wrought on a rough, country-made woollen fabric, which is dyed red, woven in narrow widths, and joined down the middle with an open-work stitch. The patterns are quaint and archaic, and are worked in sampler stitch. Occasionally creatures and objects are attempted in squares and triangles, but simple chequered patterns are more common. These primitive and unpretentious fabrics are in a good tone of colour, and have a quality of design in which more ambitious work often fails.

In this section were included the *soznis* or quilts imported from Bukhára into Pesháwar, samples of which were shown by Háji Málik Ráhmán. These plainly show their Turki origin. The patterns are bold and large, wrought in a close stitch on a ground of white cotton cloth. Of the older of these the outlines have disappeared. The black lines of all silk embroidery wrought in the East, it may be noted, are the first to decay, as the dye rots the silk. Imitations of the Bukhára *soznis* are made at Shikárpur, in Sindh, which has long kept up a trade with Central Asia.

The solid class of leather-work, such as saddlery and the making of highly-finished boots, shoes, and gloves, has hardly a place in the Punjab. Shoemaking for rough purposes is everywhere practised, and the different forms of shoes used in different parts of the province are quite characteristic. European bootmaking has also been learned in the bazars of the larger towns. In Kángra and Hoshiárpur hides of animals are beautifully tanned with the hair intact, and a fine soft skin of a greenish-buff colour is made into trousers, coats, leggings, and gloves; the skin used being that of the deer. Its local preparation depends on the use of the astringent leaves of the trees *conocarpus* and *rhus cotinus*, which can only be got in the lower hill ranges. A curious kind of ornamental work is produced in the Biláspur state, on the Sutlej, and in small quantities elsewhere. Black leather being first made into boxes and other forms, is decorated with circles or patterns of green or red leather, or leather covered with foil and fastened on like *appliqué* work, and then the whole is sewed in designs of white with thin strips of the tough and flexible quill of the peacock. This work is probably of Nepalese origin. Very delicately-embroidered leather for belts and military accoutrements of the old powder-horn and belt type is made at Pesháwar, and a little also in the Hoshiárpur district, while some

very quaintly-patterned belts in coloured silk are made in the Deraját. The embroidery of shoes in gold is a very extensive trade, chiefly practised at Delhi, from which city a large series was shown. Among the most fanciful applications of leather is that found at Kasúr, Hissár, and other places, where vases for the *hukka* are made of leather and ornamented with engraved brass and copper, and sometimes with green leather and studs of silver.

As it was understood that the leading jewellers of Delhi would exhibit their wares in the jewelry strong-room of the Exhibition, it was not considered advisable to invite extensive contributions of articles the safe custody of which involved a heavy responsibility. The specimens shown under this head, therefore, were not numerous. They comprised objects of the familiar Delhi type, which is in an Europeanised Oriental style; characteristic silver ornaments touched with colour from the Hazára district, enamelled silver ornaments from Kángra, Multán, and Baháwalpur; the round silver bead necklaces, which form a speciality of Pánipat; silver ornaments of hill patterns from Kotgarh in the Simla district; specimens of the ordinary silver ornaments in common use in the plains; and examples of the agate, carnelian, jade, and false jade ornaments put together with imported stones in the large towns of the province. Sets of false jewelry made of brass, tinsel, coloured glass and beads, were shown from Delhi and Amritsar; and as these were copied from originals of rough and bold execution and intrinsically good design, they had a surprisingly rich and costly appearance at a very low price.

If the metal workmanship of the province could be judged from the padlocks exhibited, it would take a high place. A good padlock is a necessity of native life; and while large numbers of cheap European locks are sold, a good many are made on the Chubb principle by native locksmiths. Specimens of admirable workmanship were shown by workmen in the employment of H.H. the Mahárája of Patiála and H.H. the Rája of Nábha, and by workmen of Jháng and Rupar. The technical aptitude of many Punjab metalworkers in small wares cannot be denied, although as a rule the blacksmith's trade is behindhand so far as the handling of large pieces is concerned. The most remarkable toy exhibited under this head was a piping bullfinch, most carefully and successfully copied by Nathu Rám, a watchmaker employed by the Nábha state, from the

well-known European automaton originally made by Swiss artificers. Doubts were frequently expressed as to this being really made by a native workman, but the exhibitor protested that it was his own manufacture throughout, and professed his readiness to produce another.

The amount of sales to the public effected in the Exhibition, exclusive of purchases on behalf of Government, was about Rs. 15,000.

It would be premature to draw any large conclusions as to the effect of the Calcutta Exhibition upon the industrial production of the province, but one or two points may be noticed. There would be a great demand for Multán and Delhi pottery, for Chiniot and Bhera wood-carving, for Hushiarpur wood inlay, for cotton prints of various kinds from several districts, and for Biluch rugs, if these trades were more effectively organised. There is a considerable trade in woollen goods, in *phulkáris*, carpets, Kashmir enamelled copper, chased silver-work, Delhi embroidery, brasswares, and lacquered wood, and of these goods there is a full supply. There is but little demand for damascened steel-ware and the Kashmir painted-ware known as *papier-maché*, both of which are still produced in large quantities. It seems clear, too, that what may be called the domestic industries of the province, such as the weaving of coarse cotton and woollen cloths, the manufacture of domestic utensils, and the various articles of leather, are in a generally flourishing condition, and that some trades, such as cotton-weaving and printing, which would seem incapable of withstanding the competition of cheap European goods, are, if they are dying at all, dying very hard.

The foregoing notes, though necessarily touching occasionally on the art qualities of the objects exhibited, are by no means intended as a critical estimate. This fell within the province of the jury, whose general appreciation may be divined from the large number of awards bestowed on the Punjab Court.

CHAPTER XVIII.

Rájputána.

RÁJPUTÁNA or Rajwára comprises the great territorial circle in North-Western India separating the presidency of Bengal from that of Bombay, and lying between 23° and 30° of north latitude and between 69° 30′ and 78° 15′ of east longitude. It includes eighteen native states ruled by feudatory chiefs, besides the British district of Ajmir-Mhairwara, and has an area of 130,934 square miles and a population of 10,000,000 souls, distributed as follows:—

	Area in square miles.	Population.
Alwar	3,380	778,600
Banswara	1,322	150,000
Bhartpur	1,824	743,700
Bikanír	22,340	350,000
Bundi	1,917	224,000
Dholpur	819	228,000
Dungarpur	952	100,000
Jeypore	14,882	1,900,000
Jaisalmir	16,447	72,000
Jhalawar	2,146	226,000
Karauli	1,260	140,000
Kishengarh	817	105,000
Kotah	4,484	527,000
Marwar *or* Jodhpur	37,000	2,000,000
Mewar *or* Udaipur	13,674	1,161,400
Pratabgarh	1,215	150,000
Sirohi	2,057	153,000
Tonk	1,688	320,000
Ajmir-Mhairwara	2,710	396,300

In no part of India have the ancient Hindu religious system, social customs, and methods of agriculture and manufactures, been kept more intact than in the hilly and sandy states of Rájputána. When the Hindu kingdoms situated in the more fertile and accessible regions succumbed one by one to the Muhammadan invaders, the inhospitable nature of the country and the bravery and heroism of its people formed an impassable barrier to the tide of conquest. It was only

after Muhammadan rule had been established in India for 600 years that the emperors of Delhi obtained any influence in the courts of the petty chiefs, who from time immemorial had divided the country among themselves. In the eighteenth century internal feud rendered the states an easy prey to the Mahrattas, who overran them from end to end, and, by forcing the chiefs in self-defence to seek the protection of the East India Company, led to the establishment of feudatory relations with the British Government.

The principal art-products of Rajputana are—

Stone and marble-work.
Ivory-carvings.
Gold and silversmith's work.
Enamelling.
Lacqueredware.
Horn and wood manufactures.
Embroidery.
Cotton-printing.
Woollen fabrics.
Metal-work.
Arms.

A fine-grained crystalline marble is obtained from the quarries of Makeran, in the Jodhpur territory, Railo in Alwar, and Parbatpura, Jaman-ki-Chauki, Basi, Kaimpura, and Khajur-ki-Chauki, in the British district of Ajmir. Makeran furnished the marble used in the construction of the celebrated Tájmahál at Agra, and also supplies materials for the mosaic work for which that town has become famous in the present time. In Rájputána itself the manufactures of stone consist chiefly of plates, cups, drinking-glasses, net-work for the decoration of dwelling-houses, figures of gods and goddesses, models of animals, and toys of various kinds. The industry is for the most part confined to the town of Jeypore.

Ivory-carving is carried on in Ajmir and Alwar. The Ajmir manufacture chiefly consists of bangles, which sell at from Re. 1-6 to Rs. 5-8 a set, and of other fancy articles, such as rose-water sprinklers and handles for fans. A collection of beautiful carved work was sent from Alwar, where Jhanjhu Ram is said to be the best artist. These articles were mostly ornamental nicknacks, such as a little box, an elephant painted in different colours, a model of an artist working at a fly, a chain with instruments so tiny as to

require the aid of a microscope to see them, a glass cover, a bouquet, and a pair of bangles.

The gold and silver jewelry made and used in Rájputána is similar to that of Upper India. It is manufactured in almost all the principal towns, and is largely worn both by men and women. The ornaments most in use are anklets of different patterns (*jhanjhan*, *sankla*, *pari-sant-jora*, and *karla*), bracelets of different kinds (*painchi*, *kankni*, *gujri*, and *kara*), bangles (*churis*), armlets (*tawiz*, *sur*, *bajuband*, and *chot*), necklaces (*hansuli*, *heli*, *tora*, and *timmiya*, the last being an ornament peculiar to Rájputána), ornaments for the forehead (*jhela* and *bindi*), earrings (*jhumra*, *jhutha*, *jori*, and *jhela*). The richer classes wear jewelry set with precious stones, and the middle classes trinkets of gold and silver, while the poorer people are content with brass, lac, or glass ornaments. The jewellers also make to order gold and silver *repoussé* work for the use of the chiefs and their nobles. Specimens of this work were received from Alwar.

The town of Jeypore has long been famous for its peculiar style of enamelling, the process being a secret not known elsewhere. An account of this work will be found under the chapter devoted to Jeypore.

Specimens of lacquerware were received from Kotah, where the industry is carried on in the small town of Indraghar. Indraghar work consists of wooden cups and earthen jugs lacquered in various colours. The cups are made of *khirni* wood (*Mimusops indica*), which is obtained at the place of manufacture, where the clay of which the jugs are made is found also. The lac is first reduced to small thin pieces, about an inch wide and six inches long. The cups being made to revolve on a lathe, the pieces of lac are applied, and becoming heated by friction, adhere to the wood. The ornamental work on the cups is traced by means of a fine chisel. In the case of earthen jugs the lac is melted and applied with a small piece of iron. Lac bangles are made in almost all the towns.

Horn and wood articles are manufactured at the small town of Etawa, in Kotah, whence specimens were sent. The articles are made of some hard wood, such as that of the *sisu* (*Dalbergia sisu*) or of buffalo horn, inlaid with ivory and mother-o'-pearl, and are principally used for ornamental purposes.

Embroidery, which is used chiefly in articles of dress and in edging to garments, is carried on to a small extent

at Ajmir, Alwar, Shergarh in Kotah, and other large towns. At Ajmir there is only one establishment, which gives employment to about fifteen individuals.

Ordinary coarse cotton is manufactured throughout Rájputána in the same manner as elsewhere. The hand-looms used are of the simplest and rudest construction. In Ajmir the native fabrics are plain cloths woven with a single thread, and cloths with longitudinal stripes or diagonal patterns. The native fabrics are less conspicuous for regularity of workmanship and softness or fineness of texture than for durability.

The varieties of the cloth are very limited, being only seven in number:—

(1) *Pagris* (turbans).—These are generally softer and lighter in texture than other native cloths, the ordinary dimensions being 13 yards by 10 inches. Those made from native thread are used by the rural population, and sell at 8 annas a piece. *Pagris* made from European thread are fine specimens of native muslins, with beautiful borders, in which gold thread is often tastefully introduced. The ordinary rate is Re. 1-8 per piece, but the price varies according to the quantity of gold thread used. The trade in *pagris* is rapidly increasing.

(2) *Tukris* or *rezais*.—These are stiff white cloths, made from native thread, resembling the *gara* of the Punjab. They are largely used for garments by the rural population, who prefer them on account of their cheapness and durability. The ordinary rate for these cloths is one anna a yard. They are also extensively used for calico-printing, bed-covers, and printed floor-cloth, called *jájams*.

(3) *Safta*.—This is a kind of coarse, narrow, white muslin, usually made from European thread or from mixed European and native threads. It is used for scarfs and sells at Re. 1-4 the piece of 20 yards. The machine-made muslins of Manchester and Bombay have almost entirely superseded the manufacture of *safta* cloth, which is now seldom made or sold in this district.

(4) *Khes*.—In this fabric, of which the pattern is generally plain, the thread of the weft is so interlined alternately with that of the warp that the make appears to be diagonal. It is made by certain weavers from Bhartpur and elsewhere, and is chiefly used for upper wrappers (*chadars*). Being made of coarse native thread, it is far inferior to the Punjab *khes*. The price per piece is Re. 1-4.

(5) *Dhutis.*—These, which are made of a variety of *tukri* cloth, are skirts worn round the waist by Hindus. *Dhutis* are now seldom made in Ajmir, as the produce of the Bombay cotton mills is generally preferred.

(6) *Susi.*—This is a narrow cotton fabric used only by Muhammadan women for trowsers. It is distinguished by longitudinal stripes of a different colour from the groundwork of the piece. The patterns most common are dark blue with white stripes, or blue and red stripes. The fabric is plain woven. The price is Re. 1-4 for a piece of 10 yards.

(7) *Chárkhána.*—This is also a kind of check *susi*, the varieties being black and white check or red and blue. It is superior in make to the ordinary *susi*, the rate being Rs. 2 per piece of 10 yards.

The manufacture of muslin is also carried on at the town of Kotah by 20 families of the Kataiya caste of Hindus and by Jalahas who are Muhammadans. The muslin is woven in hand-looms, and the thread, which is of cotton and is imported from Europe, is purchased from Bombay and Calcutta. The women and children of the Hindu weavers are commonly employed in warping the thread in the loom, but weaving is as a rule chiefly done by men. About Rs. 25,000 worth of muslin is annually turned out at Kotah, chiefly for turbans. The weavers sell muslin retail at Kotah to a small extent, but it is mainly sold wholesale to cloth merchants, who export it to Nimach and elsewhere.

At Baran, in the Kotah state, cloth-staining is carried on to a considerable extent, the product of the industry being known as *baran chunari*. The material used is generally an European muslin which is dyed. The process adopted is simple, the cloth being dipped successively into different pigments, the portions which in each case it is not intended to colour being carefully tied. Ordinarily the dipping is done by men and the tying by women.

The principal seat of the cotton-staining industry in Rájputána is Sanganir, near Jeypore. The cotton prints of Ajmir are, however, not inferior to those of Jeypore either in print or brilliancy of dyes. The favourite colour is dark red, the main ingredients used being *al*, the root of the *Morinda citrifolia*, and *manjit* (*Rubia cordifolia*). Varieties of colours are also obtained by the combined use of indigo and turmeric. Generally speaking, the colour is permanent. In calico-printing the cloth is damped and stretched and

the wooden blocks on which the floral patterns are carved in strong relief are charged with colour and then pressed upon it. The bed-covers and printed floor-cloths of Náyanagar are the best in the district.

Bikanir is famous for its woollen fabrics, which take the form of good white blankets and soft serges, called *lói*. Good blankets are also made at Ajmir.

The ordinary household utensils made of brass and copper and used all over India in Hindu and Muhammadan households are made in almost every town in Rájputána. The smoking-bowls (*gargara*) of Rájputána, are of peculiar pattern, and are largely exported to Upper India.

Among a warlike people like the Rájputs, the manufacture of arms was necessarily an important industry till the repression of internal feuds by British supremacy, and the supersession of the old modes of warfare consequent on the introduction of new arms of precision, reduced it to insignificance. The collection of arms lent for exhibition by the various chiefs, though the specimens were no longer of practical value for military purposes, was very curious and unique, and of great artistic, ethnological, and historical interest. Much encouragement was given in former times to the blacksmiths, who made the manufacture of arms their special profession, and to *koftgárs* and jewellers, whose business it was to decorate them. In India the manufacture of steel of the finest quality has been known from time immemorial, and Indian swords and daggers were of special strength and durability. Whether, as some have supposed, gunpowder was known to the ancient Hindus or not, there is no doubt that the Rajputs used heavy guns in their struggles with the early Muhammadan invaders. Latterly the importation of arms made in the Muhammadan style at Ispahan, Khorasan, and other cities west of the Indus, as well as at Multan, Sialkot, and Monghyr, has greatly affected the old Hindu industry, and has led in many cases to the entire disuse of the old patterns. *Koftgári*, or the inlaying of gold and silverware on iron and other inferior metals, is entirely a foreign art. A reference to the catalogue of the Rájputána Court in Volume II will show how varied and interesting was the collection of arms supplied by the different states.

Another interesting collection in the Rájputána Court was that of Arabic and Persian books lent by the Muhammadan state of Tonk, some of which were more than three hundred

years old, while others, like the Kuran of Aurangzeb, possessed great interest owing to the celebrity of the transcribers.

Besides the British districts of Ajmir-Mhairwara, the native states which took part in the Exhibition were Jeypore, Jodhpur, Dholpur, Mewar, Tonk, Kotah, Bikanir, Bhartpur, and Jhalawar. Jeypore having long had the advantage of an enlightened administration, and of a college, school of art, museum, and other public institutions, contributed by far the most extensive and important collection, and had a Court to itself.

CHAPTER XIX.

Government Departments.

MILITARY DEPARTMENT.

THE idea of reserving a separate Court for purely military exhibits emanated from Brigadier-General H. C. Wilkinson, C.B., Commanding the Presidency District, by whom all details were elaborated, and under whose supervision the contributions of the various manufacturing departments of the Army were collected. The object of the collection was to show as completely as possible specimens of the handiwork of each department. In this chapter a brief description of each departmental exhibit will be given. A full catalogue of the exhibits will be found in Volume II. They were all, with the exception of those from the Government Harness and Saddlery Factory at Cawnpore, placed in a Court erected for the purpose on the maidan or grouped in the open air around this Court. The building in which the Court was contained was in itself one of the exhibits of the Department. Some account of its construction will be found in Chapter II.

The Army Clothing Agency at Alipore contributed glass cases containing the cloth, furnishings, buttons, and other materials used in the soldier's uniform, with a sample pattern of every uniform in the service, specimens of soldiers' under-clothing, boots, shoes, medals, ribbons, colours, standards, ornamental drum-belts, batons, &c., forming a perfect sample of the material and work done for clothing the Army.

The Ishapore Powder Factory sent specimens of its work and productions, commencing with the materials used in the manufactures of gunpowder,—brimstone from grough to refined and pulverized; the *urhar* wood used for charcoal, in all stages; and fine charcoal and saltpetre, both crude and refined. Next came samples of a green charge, of mill cake, and of press cake, and of the various stages through which powder passes in assuming its ultimate form. Specimens of powders, from the finest to the coarsest

grain, were exhibited. The last process, during which the grain is glazed and finished, was also fully exemplified, and attracted much attention from visitors, especially natives, owing to the fineness of the grain in the pistol samples and the gradual increase in size to the "cylindrical," "prism," and "Waltham Abbey" grains as manufactured for use with heavy ordnance. Nothing was omitted to render this exhibit interesting and complete.

The Small Arm Ammunition Factory, Dum-Dum, was equally well represented. Its collection included samples of cartridges in every stage of development, from the cutting of the brass sheet and the making of the bullet, to the finished article; detonators, time and percussion fuzes, and ammunition boxes in all stages of preparation. An instrument for measuring up to the 10,000th part of an inch attracted great interest.

The Cossipore Shell Factory showed specimens of castings from the rough spray of a fuze body up to a muzzle derrick for a 9-inch gun and a 24-inch bell, the collection being very well arranged to attract the visitor's attention.

The Fort William Arsenal came forward with specimens of almost every article of equipment for field service use, both ancient and modern. Among the former were flint muskets, carbines, and a wonderful hand mortar invented in 1818 as a light and simple means of projecting loaded shells at short ranges. Among the latter were found the last pattern of Martini-Henry rifle, revolvers, swords, and lances, improved water-bottles, tools for entrenching, with *kajawahs* or carriages for their transport, leather accoutrements, drums, bugles, gymnasium and fencing apparatus, harness, elephant equipment, saddlery of every kind in use in the service, and general service pack-saddles with litters for the transport of sick and wounded men. These last, however, are not used in India, the "dhoolie" being preferred. There were further a machine for testing sights, samples of cartridges from a battering charge for a 9-inch rifled muzzle-loading gun to that of the light mountain gun of 12 ounces, war rockets, spikes, common steel and spring pattern lances. Perhaps the most interesting part of the exhibit from an historical point of view were some old banners and other trophies, including two guns cast in the Afghan Gun Foundry at Herat and captured from Sardar Muhammad Ayub Khan at Mazra, near Kandahar, by Lieutenant-General Sir F. Roberts on the 1st of September 1880. Outside the building was exhibited an

imitation Armstrong breech-loading 9-pounder rifled gun of 6 cwt., which was turned at Kabul by native workmen out of a single block of wrought-iron. This gun, which was said to fire very accurately, was one of an Armstrong battery used by Sardar Ayub Khan against the English at Maiwand, and afterwards in the seige of Kandahar. It was captured at Mazra with the other two guns already mentioned.

The Firuzpur Arsenal lent some of its collection of banners and standards of historical interest, which added to the adornment of the Court. Amongst these were a triangular crimson flag with a green border, originally belonging to the Sikh Khalsa and captured at the battle of Sobraon; a crimson and black standard belonging to the second squadron of the late 5th Bengal Light Cavalry, which performed all the arduous scouting and foraging duties with Sale's force at the seige of Jellalabad, 1841-42, after the remaining squadrons of the regiment had been cut down to a man in the Jagduluk Pass; the regimental colours of the late 35th Regiment, Bengal Native Infantry, carried at the seige of Allyghur and at Delhi, 1803; a quaint horn, with the bell shaped like the head of a dragon, belonging to the body-guard of General Avitabile, Commander-in-Chief of the Sikhs at Peshawar, and captured by Sir W. Gilbert's force in 1849.

Brigadier-General Wilkinson exhibited a pair of spring lances invented by himself and several sets of saddlery in use among the various mounted branches of the service, and two sets of saddlery, one of which was designed by Colonel Mackenzie, Commanding 3rd Bengal Cavalry, and the other by the exhibitor. Wallace's entrenching tools of various sizes were shown. A complete service kit for an officer for ordinary campaigning, as recommended by the Kabul Committee on Equipments in 1882 for "medium" weather, the total weight being under 80lb, attracted considerable attention, and beside it were placed a few extras needed by staff and field officers. Signalling apparatus, as exemplified by flags, lamps, and the heliograph, was not wanting; and beside the latest improvement in heliography was seen what is believed to be the first heliograph ever used in manœuvring troops. It was designed in 1870 by Brigadier-General (then Major) H. C. Wilkinson, Commanding the 16th Lancers, and differs from the present models, in that the instrument itself is not touched, the flashes being formed by the movement of a

shutter in front of the glass. Private W. Clarke, 17th Leicestershire Regiment, exhibited a model of a bridge by which short spars can be utilised, and a drawing-instrument invented by himself of very ingenious construction, by the aid of which any object can be drawn in perfect perspective. A moving target for musketry practice, invented by Brigadier-General Wilkinson, was shown at work outside the building, and near it was placed an old frame mounted on wheels, containing seven gun barrels loading at the muzzle and fired separately by hand. This quaint gun came from the Bombay presidency, and it is to be regretted that no history accompanied it.

Several officers and gentlemen very kindly lent articles picked up on the battle-field, such as coins, bullets, shot, &c., which added much to the interest of the Court. The Hon'ble Mr. J. Gibbs, C.S.I., C.I.E., Member of the Executive Council, lent a valuable collection showing every medal and decoration issued to the native armies of India from the middle of last century up to the present date.

A place of honour was reserved in the Court for the old colours of the Calcutta Volunteer Guards, the first flags ever issued to a European Volunteer Corps in India. They were presented to the corps by Lady Canning in 1857, and were carried up to the date of its disbandment in 1860, after which they were stored in the armoury of the Fort William Arsenal and made over to the care of the present Calcutta Volunteer Rifles by Lord Lytton in 1877.

The Government Harness and Saddlery Factory at Cawnpore showed a complete set of the articles now made at the factory and a few specimens of the kinds of equipment formerly used in the service. They were, as stated at the beginning of this chapter, not placed in the Military Court, but were allotted a separate space in the annexe to the Indian Court. A high dado of red *salu* was hung on the walls and partitions which were raised at either end of the Court, and on this bits, stirrups, swords, and other bright metal trappings were arranged between samples of tanned and untanned leather. The saddlery and harness were displayed on stands in the body of the Court. The latter obtained an award of a silver medal. A very complete collection of specimens of tanning materials indigenous to India, and of samples of skins tanned with them, was also awarded a silver medal.

AGRICULTURAL DEPARTMENT.

The collection of agricultural implements brought to the Calcutta Exhibition was of considerable interest, as fully illustrating the primitive methods of cultivation still practised throughout India. The completeness of the collection was due to the exertions of the Directors of Agriculture in Assam, the North-Western Provinces and Oudh, the Central Provinces and Madras, of the Curator of the Victoria and Albert Museum, Bombay, and of the Agricultural Reporter to the Madras Government. A detailed list, with a description of the implements and appliances displayed, has been incorporated in Volume II, but the following general observations on the subject may be usefully recorded here.

The agricultural implements of India are still little changed from the rude appliances with which the Aryan settlers in the country cultivated the soil four thousand years ago. Obstacles, which have hitherto been found insurmountable, stand in the way of their improvement on a scientific basis, and the endeavours of Government and other public bodies in this direction have, with one or two solitary exceptions, been unsuccessful. The small extent of the individual holdings, seldom exceeding ten acres of land, the ignorance and poverty of the peasants, the unwillingness of the landlords, with some very notable exceptions, to lay out capital on improvements, the inferiority of the plough cattle, and the cheapness of manual labour, are all circumstances adverse to the introduction of agricultural science into India.

First in importance among the agricultural implements comes the plough. The Indian plough is a rude instrument, consisting of a small share, a handle, a beam, and a yoke. It is so light that the cultivator carries it to the field on his shoulder in the morning and brings it back with him in the evening. It is drawn by a pair of oxen, merely scratches the soil to the depth of an inch, and does not turn over the soil. Dr. MacDonald, the officer who collected the implements of the Bombay presidency, justly remarked that "perhaps to an English farmer the instrument, if displayed in London, would appear the most astonishing article in the Exhibition." Various attempts are now being made to improve the native plough, but the chief obstacles in the way are the poverty of the peasants and the weakened condition of the cattle owing to the want of proper food for a great portion of every year.

Even the plough is almost unknown in many forest tracts, where spare land is abundant and where the wild tribes practise the *jhúmia* system of cultivation. This system consists in clearing a plot of jungle land by burning the dry trees and shrubs and in sowing broadcast in the ashes thus formed the crop, generally millets, which it is desired to rear. The crop grows up without further care, and in the next year a fresh plot is taken up and similarly treated. The whole of this simple but wasteful method of tillage is performed with the aid of a single chopping instrument, known as the *dáo*, which to many tribes is also a fighting weapon.

The implement next in importance to the plough is the water-lift. As extensive areas of land in various parts of India depend on artificial irrigation, a more effective means than the existing apparatus of raising water from deep wells is still a great want. The ordinary modes of lifting water practised from time immemorial are the swing-basket used in tanks; the *dhenkli*, a canoe-like piece of wood raised and lowered by means of a lever, also used in tanks, rivers, and surface-wells; the Persian-wheel, and the leathern bucket in which water is raised from deep wells by bullocks going up and down an incline. During the last few years persevering endeavours have been made by the agricultural departments of the Government to introduce a more effective means of raising water, but up to this time no machinery has been found suited to the circumstances of an Indian cultivator. A chain pump modified at the Cawnpore Government Farm from MacComas' water-lift has found some favour among the richer class of cultivators.

Another pressing want of India is a good fibre-extracting machine. A large number of plants capable of yielding fibre suitable for the manufacture of textile fabrics, rope and cordage, paper, and other materials, cannot be utilised for want of such a machine, as the ordinary native method of retting is laborious, expensive, and not always successful. On two occasions handsome prizes have been offered by the Government for fibre-extracting machines; but among the many tried, none has yet been found to answer all the requirements. During the Exhibition a trial of fibre-machines was held, and further experiments have since been made, the result of which has been more promising than that of previous trials.

Of all the newly-invented or modified implements made to suit the peculiar circumstances of the Indian peasantry, the most successful is the sugar-mill introduced by Messrs. Thomson and Mylne of Bihia, in the Sháhábád district of the Lower Provinces of Bengal. A full description of this mill will be found in Volume II. Within a few years of its introduction it has to a great extent superseded the native mill in parts of Bengal and Behar, and large numbers are now in use in the villages. The price is high, but the difficulty has been overcome by several of the cultivators clubbing together and purchasing the mill as common property.

No mention need be made here of the minor implements and agricultural appliances, such as the rake, the harrow, the cart, and the reaping-instruments, the time being still distant when any improvement in them will be required.

SURVEY DEPARTMENT.

The Survey of India Court occupied about forty running feet of the centre part of the eastern annexe, and contained a most interesting and extensive series of exhibits illustrating the operations of the survey in its different branches—Trigonometrical, Topographical and Revenue—as well as the processes by which the results of these operations are reproduced and printed in the head-quarter offices at Dehra and Calcutta.

All surveys are dependent on the use of instruments for observation and measurement; and though the collection of instruments exhibited was not so complete as might have been possible had the conditions of space and locale been more favourable, a few of the finest and most representative instruments used in the surveys were shown in two large cases, one at either end of the Court. In the case at the north end was a magnificent zenith sector manufactured by Messrs. Troughton and Simms from designs made specially for the Survey Department by the late Colonel Strange, R.E. The instrument is intended for the determination of astronomical latitudes, and every portion of it has been carefully designed and adapted for this special purpose. In the same case was exhibited one of the large 36-inch theodolites employed in the principal triangulation carried on by the Great Trigonometrical Survey. This instrument, also, was constructed by Messrs. Troughton and Simms some fifty-four years ago, and, notwithstanding its bulk and difficulty of

transport, has during that time done good service, having been erected at no less than 516 stations of the Great Trigonometrical Survey, many of them situated on mountain summits, and others on lofty towers. No less than 1,772 angles have been measured with it. This instrument is the largest size of theodolite made, and is used exclusively for triangulation. In contrast with it stands close by a little 3-inch theodolite manufactured by Casella, which is the smallest made, and is intended for the use of explorers.

The instruments exhibited in the other case were of a more miscellaneous character, comprising a Repshold's magnetic dip circle, a 14-inch vernier theodolite of excellent design by Troughton and Simms, a 7-inch theodolite, with stand, by Cooke, a 20-inch level by the same maker, and an arithmometer and other instruments. Among the latter was an Eckholds' omnimeter, a most useful instrument, which, while answering the same purpose as an ordinary theodolite, which it resembles in appearance, is constructed to determine directly the distance of any observed object, and it is therefore a valuable assistance when working in hilly and broken ground.

Between the bays of the west wall, and in albums on a table below it, were exhibited a very complete collection of maps of various kinds and on different scales produced by the department, as well as specimens of copper-plate engraving, photozincography, and lithography.

At the extreme right were cadastral maps, *i.e.*, village maps on the scale of 16-miles to the inch, showing every field and holding. Up to the present time the operations of the cadastral surveys have been chiefly confined to the richly cultivated revenue-paying districts of the North-Western Provinces and British Burma, but they are now being extended to Assam and the Central Provinces. The original sheets of these surveys (imperial size, or 30 inches by 20 inches) are reproduced by photozincography, and one of the most interesting exhibits in the Survey Court was a series illustrative of the processes employed in reproducing these maps. The sheets are photographed on glass plates 34 inches by 22 inches, so that a whole sheet is taken at one operation, and much time and labour—important considerations when 3,000 to 4,000 such sheets have to be reproduced annually—are saved.

Next to the cadastral maps were a series of topographical maps on various scales, seldom larger than 2 inches to the mile, and generally 1 inch to the mile in open country

and ½ inch to the mile in more difficult and hilly parts. These surveys as a rule are carried on in native states and wild hilly tracts not paying revenue. The original sheets submitted by the surveyors in the field are reproduced in facsimile by photozincography either at Dehra Dun or in Calcutta. In the same way the maps of the Revenue Surveys in the more highly cultivated revenue-paying districts are usually published on the scale of 1 inch to the mile, the more recent surveys being photozincographed, and the older lithographed.

In the next bay were exhibited specimens of town and city plans, chiefly European stations and cantonments, but also including plans of the principal cities in native states. These are on various scales, from 6 to 24 inches to the mile, and are executed by the revenue and topographical parties, according as the towns, &c., fall within their sphere of operations. These also are, as a rule, photozincographed from the originals.

Next came a collection of general maps, among which the most prominent was General Walker's admirable map of Turkestan on the scale of 32 miles to the inch, now in its sixth edition, prepared and photozincographed at the Trigonometrical Branch Office, Dehra Dun. In this bay was also exhibited a series of maps of India engraved in Calcutta on the scales of 64, 128, and 256 miles to the inch. A large 32-mile to the inch map of India, belonging to the series, was exhibited separately. It was executed by a combination of engraving and lithography, the outline being taken from the engraved plates, and completed with the addition of hills on the lithographic stone.

The next three bays were occupied by specimens of copper-plate engraving, lithography and photozincography in different styles and of various subjects other than maps, illustrative of the varied character of the work turned out by the Survey Department for other departments. Thus among the engravings were a few very delicately-engraved plates by Mr. C. W. Coard of microscopic observations of cholera, and of examination of air made by Drs. Lewis and D. D. Cunningham. Among the photozincographs were copies of the plans of the proposed new Kidderpore Docks, plans of some of the new public buildings in Calcutta designed by Mr. E. J. Martin, the Government architect, and a few copies of engravings, &c., while contained in the atlases on the table were specimens of the different kinds of

vernacular handwriting passing through the post-offices in India, photozincographs of the ancient inscriptions in Gaur and Malda, copies of Burmese vernacular maps, Russian maps, and other manuscript drawings and documents of which facsimile copies are required.

The specimens of lithography and chromo-lithography were particularly good, the execution of some of the geological maps printed in colours being quite equal to similar work done in Europe. The chalk drawings included a number of plates to illustrate General Cunningham's reports of the archæological survey, and a large and very effective plan of Simla and Jutogh with hills in chalk, copied from an original brush-shaded drawing by Major G. Strahan, R.E. The atlases on the table contained various specimens of lithographed maps and drawings, among which may specially be noticed some very neat maps of districts in the North-West Provinces drawn on stone to illustrate the Provincial Gazetteers.

One of the most noteworthy exhibits was the large relief map of India on the scale of 32 miles to the inch constructed by Major G. Strahan, R.E., on the basis of a map, also prepared by him, showing the approximate heights by a system of average contours. Prints of this map on stout paper being cut round each contour, they were built up so that each successive contour marks an increase in height on the relief. The first five contours, reckoning from the level of the sea, represent successive rises of 200 feet. From 1,000 feet upwards each contour represented an increased height of 500 feet. The general effect was very striking, and the lie and elevations of the mountain ranges were very different from what would have been anticipated from a study of the ordinary maps.

A very important and interesting series of thirteen large maps, of which ten were prepared specially for the Exhibition, illustrating the material progress and state of India, was shown on the last wall of the Court, and attracted a good deal of attention. The subjects illustrated in these maps were—the geology of India, the distribution of forest trees, the missionary stations (and from the numerous inquiries made for copies of it this appeared to be by no means the least interesting), the religions of India, the telegraph lines and stations, the crops, irrigation, the external trade, density of population, rainfall, languages, and river-basins.

The crop-map was prepared by Captain Gore, R.E., under the direction of Colonel DePrée, Surveyor-General

of India, on a very simple and ingenious system, and showed the acreage under cultivation of the eight principal crops in each district as given by returns furnished by district officers. Each district was divided on the map into ten vertical slips, each slip, whatever its length, being taken to represent one tenth of the area of the district. The slips or portions of slips were coloured to show the percentage of area under cultivation with the eight principal crops. The area of uncultivable land was also shown. The area in acres of each district was printed across it, so that it was possible to calculate at once the area of any crop growing in the district. Unfortunately the absence of statistics for the Bengal districts rendered the map incomplete.

The map showing the distribution of the various religions in India, prepared by Major Sandeman, was also very interesting. The occurrence of the various religions was shown by spots of colour: thus—Islam, green; Hinduism, burnt sienna; Christianity, blue; the Sikhs religion, red; Buddhism, yellow, &c., each spot representing 25,000 inhabitants. The map showed, therefore, not only the distribution of the various religions, but the density of the population. The last characteristic was specially marked in the Gangetic valley. The large preponderance of Muhammadans in Bengal was also clearly shown, while in Southern India the blue spots representing Christianity occurred with comparative frequency.

The geological map and the rainfall map were lithographed from originals prepared in the Geological Survey and Meteorological offices, and were good specimens of colour-printing. It is to be hoped that the whole series of these interesting maps will be lithographed and made available to the public, as a glance at them teaches more as to the actual state of the country than volumes of dry statistics.

For this very comprehensive collection of maps a gold medal was awarded to the Survey of India.

Two large tables with sloping backs running along the centre of the Court were chiefly devoted to photographs and specimens illustrating the processes of photo-mechanical printing and lithography. Among the former the most important were a small collection of the photographs of the sun's disc taken daily in the photoheliograph at Dehra Dun under the superintendence of Mr. J. B. N. Hennessey, M.A., F.R.S., to which a silver medal was awarded. These photographs, though not so large as those

taken by M. Janssen at Meudon, near Paris, being only 8 inches in diameter instead of 12 inches, showed the granulation of the solar surface very clearly, and in this respect were a great improvement on the 4-inch photographs hitherto taken. Arrangements are now completed by which 10-inch photographs are taken. These show the granulations and spots with great clearness.

The remaining photographs were exhibited by the Photographic Office in Calcutta, and comprised reproductions by the ordinary silver-printing process of monochrome drawings by Colonel H. C. B. Tanner, Bo. S.C., and a small series of photographs of Indian jewelry, &c., prepared for the Vienna Exhibition of 1872. Among the illustrations of photographic processes the most noteworthy was a series showing the procedure followed in photozincographing a sheet of the cadastral survey :—

1st.—The original manuscript map, drawn in the field, measuring 22 inches by 30 inches.

2nd.—The negative, taken by the ordinary wet collodion process on a glass plate 34 inches by 22 inches, special precautions being taken to keep the lines of the map as clear as possible, while the ground is quite black and opaque.

3rd.—The photo-transfer print from the negative, produced by sun-printing on sensitive paper coated with a mixture of gelatine and bichromate of potash, the image formed by the action of light through the clear parts of the negative appearing in brown upon the pure yellow ground of the paper protected from light by the opaque parts of the negative.

4th.—The transfer print, coated evenly with a greasy transfer ink, which blackens it all over.

5th.—The photo-transfer print after washing in warm water. The ink and unchanged gelatine and bichromate are washed away from the ground of the print, leaving the image in insoluble gelatine with the greasy ink attached.

6th.—The zinc plate with the greasy ink image transferred to it.

7th.—The finished print.

This process, introduced in 1863, is most extensively used in the Survey of India offices, both at Calcutta and Dehra, for

the reproduction of maps. The great majority of the maps exhibited were produced by means of it, and no other process would enable the department to meet the large demands upon it for copies of maps, plans, and drawings of all kinds.

The other two photo-mechanical processes exhibited were photo-collotype and heliogravure. These though eminently useful for certain classes of work, will never supersede photozincography for the rapid and cheap reproduction of large maps.

The process of photo-collotype was shown by a series comprising—

1st.—The original, an engraved quarter-sheet of the atlas of India.

2nd.—A reversed negative made from the original reduced to half the scale.

3rd.—The printing plate, consisting of a plate of glass half an inch thick, coated with a thin film of hardened gelatine. This film is made sensitive to light with bichromate of potash, and when dry is exposed to light under the negative. The light passing through the clear parts of the negative, representing the shadows of the subject, still further hardens the gelatine and renders it unabsorbent of water just in proportion to the amount of the action of light upon it. The plate is then washed to remove all the bichromate salt, and removed while wet to an ordinary printing-press, where it is inked in with a roller charged with printing-ink, just in the same way as a lithographic drawing. The ink will take only on the parts hardened by the light, and if the subject be in half tone, such as an ordinary photograph, the ink will take just in proportion to the amount of action of light—strongly on the deep shadows, less so on the dark half tones, less again on the lighter half tones, and not at all on the high lights, and thus a picture is obtained in printing-ink with all the exquisitely fine gradation of an ordinary photograph. A collection of specimens of this process showed its capability of reproducing various subjects in fine lines or half tones,

and it may be mentioned that it was employed for the production of the certificates of award of gold medals, photographed from the original drawing made by A. P. Bagchi of the School of Art.

Another valuable photo-mechanical process shown, is heliogravure, a method of photographic engraving by which an engraved copper plate may be obtained of any subject in line or half tone. The process consists in printing a photographic image on a tissue prepared by coating paper with coloured gelatine and rendering it sensitive by immersion in a bath of bichromate of potash. The printed tissue is then made to adhere under water to a polished copper plate thinly silvered. After a short time the plate with the tissue is treated with warm water, which loosens the supporting paper and enables it to be removed, leaving the greater part of the coloured gelatine and the image on the copper plate. By continuing the washing all the soluble gelatine is removed, leaving only the thin film of gelatine forming the image and rendered insoluble and hardened by the action of light. This film is of varying thickness, according to the amount of the action of light. It is thickest in the deepest shadows of the image, and progressively thinner through the dark and light half-shades down to the high lights which should be represented by the bare copper.

If the subject be in line, no further treatment of the gelatine relief is necessary, beyond a slight hardening in a bath of alum or bichromate of potash, after which it is washed and dried before being blackleaded and prepared for electrotyping.

If, however, the gelatine relief be produced from an ordinary photograph, or any other subject in half tone, it has to undergo a further operation, by which a grained or roughened surface is given to it, in order that the surface of the deposited copper plate may also be roughened and hold the printing-ink in the proper proportion to give the relative value of the different tones of the picture. This is done by a method introduced by Major Waterhouse, which has proved simple and effective. After the treatment with warm water, and while the gelatine relief is still soft and swollen, it is powdered all over with some granular material, such as sand or emery, which has been previously treated with a greasy substance to prevent its sticking to the gelatine. The plate is left to dry, and as it dries the sand,

&c., is drawn into the gelatine and pits its surface in different depths according to the thickness of the film, thus producing a graduated grain, coarse in the shadows and fine in the lights. The plate being wetted, the sand is easily removed by gentle rubbing. When dry, the grained relief is ready to be blackleaded and electrotyped—an operation which takes about three weeks or a month, according to the thickness of the deposit. The deposited copper is then separated from the matrix, and after being cleaned is ready for printing in the copper-plate press.

The series exhibited showed—

1st.—The original, which in this case was a drawing in monochrome by Colonel C. J. Cramer Roberts of a view of Kinchinjanga from Birch Hill, Darjiling, represented by a photographed copy.

2nd.—The negative, which has to be reversed in order to produce a reversed image on the deposited plate.

3rd.—The gelatine tissue adhering to the copper plate.

4th.—The developed and grained image.

5th.—The same blackleaded and ready for electrotyping.

6th.—The deposited copper plate ready for printing.

7th.—The proof from the plate.

In a frame were shown various specimens illustrating the applications of this process to copies of maps, shaded drawings, portraits, and views from nature.

On the same side of the table was a small series, comprising a stone with outline in black and three colour-stones with proofs of each colour and the completed copy of an index-map of the Geological Survey, illustrating the process of printing in colours by lithography.

Certificates of gold medals were awarded to both the Photographic and Lithographic offices for the excellence of their exhibits.

On the other side of the central table were an array of imposing-looking volumes recording the operations of the Great Trigonometrical Survey, and prepared under the immediate superintendence of Lieut.-General J. T. Walker, C.B., R.E., late Surveyor-General of India. The annual reports of the Department, which, it may be mentioned, contain a vast quantity of interesting and valuable information regarding little-known parts of the country, were shown with other reports.

The last exhibits requiring notice are the tidal diagrams on the central table illustrating the very important work done by the Tidal and Levelling party of the Great Trigonometrical Survey under Major Baird, R.E. The tidal observations were first started in 1872, with the object of ascertaining by a series of observations extending over many years whether any gradual difference of relative level of land and sea is taking place in the Gulf of Katch, as was surmised by the late Dr. Oldham, Superintendent of the Geological Survey, and the early operations of the party were confined to that neighbourhood. The tidal observatories have, however, since been extended round the Coast of India and British Burma from Karachi to Moulmein, and there are also stations at Aden and at the Andaman Islands. The observations are effected by self-registering instruments, which record the rise and fall of the tides in a curve upon a sheet of paper rolled round a metallic drum. Besides their scientific value in determining variations of the level of the land and sea, these observations are of considerable practical use in enabling tide-tables to be drawn up for the different Indian ports for the use of mariners. They have also been found very valuable to science in another direction, as giving records of earthquakes and other submarine volcanic disturbances taking place in Indian seas. Thus the earthquake of the 31st December 1881 was clearly recorded at Port Blair, Negapatam, and other stations on the east coast of the Bay of Bengal. The effect of the more recent volcanic eruption of August last in Java was also distinctly traceable on the registers of most of the Indian tidal stations extending as far as Aden.

This slight sketch of the various interesting exhibits of the Survey of India can only give a very faint idea of the extent of the operations of the department in its several branches, and of the steady progress that is being made in accurately mapping this vast empire. Although the lines of triangulation, upon which so much depends in survey operations, have now been almost completely fixed all over the country with an accuracy equal, if not superior, to that of any country in the world, and much has also been done in the Topographical and Revenue branches to get a good general first survey, much detail work still remains, and there are yet many openings for valuable explorations on and beyond the frontiers and in other little-known regions.

EDUCATIONAL DEPARTMENT.

The exhibits of the Bengal Educational Department were placed in the south-east corner of the annexe of the Indian Court, occupying about 850 square feet. They were arranged so as to illustrate the general working of the official system of organised education in Bengal. No attempt was made to get together a mere collection of curiosities, and the specimens of school-work exhibited were for the most part *bonâ fide* work produced in the ordinary routine of school duties, with no view to exhibition. As the educational collection was only taken in hand at a very late period, it was not found possible completely to illustrate every department of official education. The object at which the department aimed was to bring together such exhibits as should enable the visitor to form a fairly accurate idea of the system pursued by it.

A list of the exhibits will be found in Volume II. To enable the reader, however, to understand the import of the articles exhibited, the following short sketch of the Bengal educational system is given.

State education in Bengal is divided into three great classes—primary, secondary, and university education. There are in addition technical schools, girls' schools for children of European extraction, schools of art, and others, which lie outside this classification, and are grouped together as schools of special instruction. Each of the three great classes mentioned is in its turn subdivided according to the character of the instruction imparted to the schools comprised in it. In the lowest, or primary class, the division is into upper and lower primary schools, the latter again being subdivided into higher and lower sections, according as the pupils can or cannot read a printed book. This inferior section of lower primary schools is the nethermost step in the scale of organised education in these provinces.

In the lower primary schools the teaching consists of the first four rules of arithmetic according to the English method, mental arithmetic according to the native method, writing, and reading a simple printed book. In the upper primary schools the same course is taught, but to it is added the imparting of a fair knowledge of the vernacular language of the province, of arithmetic and zamindari accounts, of geometry, of the history and geography of Bengal, and of the elements of physical science. There is thus between the two descriptions of schools no hard-and-fast

line of demarcation. All upper primary schools are genuine lower primary schools also and something more.

The transition between one class of school and the next is as easy and gradual as that between descriptions of schools within the same class. The secondary schools comprise three descriptions—high and middle English, and middle vernacular. The middle vernacular schools are the lowest of the class, and in them the curriculum differs from that of the upper primary schools only in the fuller character of the instruction imparted and in the addition of an English class, attendance at which is optional. The middle English school, again, is an improvement on the middle vernacular, the English subject being now compulsory; while the high English school, teaching the course for the University Entrance Examination, keeps touch with all inferior grades by means of classes suited to the requirements of pupils of every lower stage of educational development. Finally, crossing the boundary into the domain of university education, the second-class college, teaching up to the First Arts standard, improves on the instruction given in the high English schools; while the first-class college, teaching the full B.A. course, is the ultimate and full development of the instruction imparted in all inferior grades.

Not only does the existing gradation of schools facilitate the passage of pupils from a lower class of school to a higher, but the transition for meritorious pupils is also still further facilitated by the provision of scholarships. Marked proficiency in the course of study taught in the lower primary schools qualifies for a scholarship of Rs. 2 per month tenable for two years at any upper primary school, or at those schools of the secondary group in which the vernacular language is the basis of instruction. In like manner, excellence in the upper primary course is rewarded by a scholarship of Rs. 3 per month, tenable also for two years at any middle vernacular or middle English school. The subjects of study in the middle vernacular and middle English schools are the same, the distinction between the two grades being found in the greater attention paid in the latter to English, and possibly in a better class of vernacular instruction also. Excellence in the middle vernacular school course entitles its possessor to a scholarship of Rs. 4, and in the middle English school course to a scholarship of Rs. 5, both tenable at any Government or aided school. Finally, 152 junior scholarships of Rs. 20, Rs. 15, and Rs. 10 in value, tenable for two

years, reward the most successful students at the University Entrance Examination; while 49 senior scholarships of Rs. 25 and Rs. 20 in value, tenable for a similar period, are within the reach of those who distinguish themselves most at the First Arts Examination. All these are Government scholarships, but many more founded by private munificence are awarded either at the University or at the departmental examinations.

METEOROLOGICAL DEPARTMENT.

The Meteorological Departments of India and Bengal showed, in the annexe to the Indian Court, a set of exhibits consisting mainly of charts and of a few of the scientific instruments now in use for the registration of meteorological phenomena. The charts were the more interesting to the non-scientific observer, as, owing to the clearness of the systems on which they were elaborated, it was easy to compare at a glance the climatic conditions of the different parts of India. It was unfortunately impossible, owing to the construction of the annexe, to show the working of the instruments, but the results of their work, as embodied in the charts, left no doubt as to their completeness and usefulness.

JAIL DEPARTMENT.

The Bengal Jail Department exhibited a collection of the articles manufactured in jails by jail labour, which was placed next to the Central Provinces Court. Conspicuous in it was a handsome show-case containing a set of specimens of stereotypes and electrotypes made at the Presidency Jail. Grouped round this were rugs, door-mats, cane chairs, tables, baskets, and other jail manufactures, while on the walls of the Court were hung carpets, *pardas*, and *daris*. The general effect of the colouring and arrangement of the Court was very good. The carpets made in the Bhágalpur jail were the only carpets which could bear comparison with those manufactured in the Upper Provinces. They were awarded a silver medal, in recognition no doubt to some extent of the excellence of the dyes employed. The Hazáribágh jail also exhibited carpets, but these were considered of an inferior quality and received no award, though the dyes made at Hazáribágh obtained the same award, a silver medal, as those shown by the Bhágalpur jail. The Hazáribágh jail also exhibited some pretty cane work and ornamental aloe matting.

The Government Workshops, Dehree, sent a collection of models illustrative of the work on the Sone Canal. A full description of these will be found in Volume II. They comprised models of some inventions by Mr. Fouracres, a model of the Sone weir, and a case of the building materials available at Déhree. A silver medal was awarded to Mr. Fouracres for the models of his excavator and lock-gates of the Sone Canal.

The Canal Foundry and Workshops, Roorkee, exhibited a set of surveying and other instruments, some benches for use in gardens and churches, some ploughs, a bell, and other articles.

The Barrakur Iron Works, Bengal, sent a small exhibit of iron ores, pig iron, and castings made at Barrakur. This was of more than ordinary interest, as these are the only works in India where this ore is reduced from its raw state to pig and cast. The greater part of the exhibit was not set up till very late owing to the fact that the blast furnaces were not ready for use till after the opening of the Exhibition. It is well known that the pig iron turned out from newly-erected furnaces is almost useless, and this may account for the small value put on the exhibit by the jury. Since then, however, numerous trials of the Burrakur pig iron have been made by the leading railway companies in India, and it has been found by them to be equal to No. 1 Gartsherrie pig. A large quantity of cast iron sleepers have been and still are being made.

The Corporation of the Town of Calcutta contributed an interesting set of photographs, designs, and models illustrative of the drainage and water-works of the city.

In addition to the exhibits already mentioned, there were several which, though they were not really the exhibits of any branch of the department, were received under this head as being the inventions of members of the department; or as being illustrative of the construction of public works under construction by private companies. Among the former may be mentioned Mr. Rendell's coupling and Mr. Winter's electrical exhibits. Among the latter, the East Indian Railway exhibited a working model of the Kurhurbari collieries, which was awarded a certificate of a gold medal, a complete set of the working parts of a locomotive, and some other models. The Punjab Northern State Railway and the Oudh and Rohilkhand Railway also exhibited models illustrating the construction of the Attock and Benares bridges.

TELEGRAPH DEPARTMENT.

The Telegraph Department sent a handsome case containing articles manufactured by the Government Telegraph Workshops, Alipore, for the use of the Department. The articles themselves obtained an award of a gold medal, while the case, which was also made in the Workshops, received a silver medal.

FOREST DEPARTMENT.

BENGAL.

Vide Chapter XX, page 348.

ANDAMAN AND NICOBAR ISLANDS.

The Forest Department of the Andaman and Nicobar Islands contributed an excellent collection of the useful and ornamental timbers of the islands. A concise description of them is entered in Volume II.

CHAPTER XX.

The Economic Court.

This Court, which occupied the southern half of the western annexe of the Indian section of the Exhibition, was 24 feet broad by 280 feet in length. The entrance was from the grand transept, and the Court, passing round a quarter of the building, was terminated by the Forest Department's gateway. In addition to economic products, this Court was made to include primary or rough manufactures, as also all ethnological collections. It was thus relieved of the monotony of being purely a collection of grains, medicines, and fibres, the ethnological collections and life-size clay figures forming an attractive feature of the Court. This was found to be a natural and suggestive arrangement, illustrating as it did the close connection that exists between many of our more important raw products and the aboriginal tribes of the country. It was thus possible to place in close proximity models of the races, the crude appliances used by them, and the produce of their labour.

THE CATALOGUE.

The Court was divided by triumphal arches into seven distinct sections. These sections corresponded to the seven parts of the Official Catalogue which was compiled by Dr. George Watt, the officer in charge, and which was placed in the hands of the public on the opening day. These parts are as follows:—

Part I.—Gums, resins, and resinous extracts.
Part II.—Dyes, tans, mordants, and pigments.
Part III.—Fibres and fibrous plants.
Part IV.—Oils and oil-seeds.
Part V.—Medicinal products, drugs, and chemicals.
Part VI.—Foods, food-stuffs, and fodder.
Part VII.—Timbers.

The catalogue of the Economic Court, comprising the above parts, extends to 1,713 pages, dealing with 4,333

separate objects. It is a compilation from the entire literature of Indian economic science, giving brief notices of every known product. It was prepared before the collections were made; 300 copies of a preliminary edition having been struck off and distributed all over India. These were issued with the double object of obtaining corrections and additions and of becoming the guide for correspondence regarding the collections which were being prepared by local officers. In this way uniformity was preserved and a much more complete collection was brought together than could otherwise have been the case. It is necessary to add, however, that the catalogue contains descriptions of a large number of products of which specimens were not exhibited.* After incorporating the corrections which came to light through this combined inquiry, the final edition was struck off. Each part is alphabetical within itself (according to the scientific names), and has a serial number on the margin. These numbers were attached to the specimens, so that the visitor within each section of the Court had no difficulty in turning up the description of any product exhibited, and the collections being arranged in alphabetical and serial order, he could with equal ease discover a specimen of any product described in the catalogue. In the same manner, a visitor who knew only the vernacular or European name of a particular product which he wished to find had only to turn to the index.

CLASSIFICATION OF EXHIBITS.

In most exhibitions it is customary to find raw products grouped into three primary classes,—the products of the animal, vegetable, and mineral kingdoms. According to the classification pursued by Dr. Watt, however, these became only minor sections, the products being grouped into practical or industrial courts corresponding to the titles of the parts of the catalogues already enumerated. Within each of these, a classification into animal, vegetable, and mineral was, as far as possible, carried out. One of the results of this system was that an expert wishing to study fibres only might purchase the catalogue of that section and pursue his studies within a comparatively

* A list of the raw products actually shown, and giving the names of all exhibitors, was drawn up and published at the close of the Exhibition by Babu T. N. Mukharji, officer in charge of the Exhibition Branch of the Revenue and Agricultural Department. This is entered in Volume II.

small space instead of having to travel through many separate rooms. The utility of this system is perhaps better illustrated by a reference to medicinal products. The catalogue of this section briefly describes 1,248 indigenous drugs, which, following the classification usually adopted, would have to be split up into three very large sections—animal, vegetable, and mineral—and be placed accordingly in different rooms, and perhaps far apart. The exhibition of all medicinal products, with their corresponding preparations or drugs, in one section, arranged alphabetically, was found to be much simpler and more convenient.

All specimens of the same product, wherever procured, bore the same number. A special ticket indicated the exhibitor's name and the province or district from which the exhibit was procured. In this way the actual number of specimens shown was increased indefinitely, so that it is scarcely possible to make even an approximate calculation of the actual number which had to be arranged and catalogued. There were, for example, over 5,000 samples of rice alone, which in the catalogue were represented thus,—

SOURCES OF COLLECTIONS.

The collections exhibited may be briefly stated as procured from five distinct sources:—

(1) The entire collection of the Bengal Economic Museum.
(2) Collections made by the Revenue and Agricultural Department of the Government of India.
(3) Collections contributed by private individuals.
(4) Trade samples supplied, as the result of a special appeal, to the various Indian Chambers of Commerce and merchants.
(5) Ethnological specimens purchased or obtained on loan.

As already stated in the opening paragraph of this report, in addition to raw products the coarser or rough manufactures were exhibited in the Economic Court. This arrangement was not, however, adhered to uniformly, since a large number of Indian rough manufactures were exhibited by the manufacturers themselves on space purchased in the general Exhibition. This departure was found to be unavoidable, but it had the effect of scattering Indian

products and manufactures over a great part of the Exhibition buildings. There were sufficient samples, however, shown in the Economic Court to enable the visitor not merely to examine a fibre, for example, but to study the ropes, yarns, and coarser manufactures made from that fibre. The manufactures of a finer quality appeared amongst the art-fabrics in another part of the building.

AN INDEX COLLECTION.

All the collections within each section of the Economic Court were referred to a further classification. A complete set was arranged in small glass-faced boxes as an index collection. These boxes were arranged in serial order upon the walls of the Court, and a narrow passage allowed the visitor to pass along and study each individual object. Upon stands in the middle of the Court were, effectively grouped, larger samples of the more important or commercial products. In the majority of instances these were shown in open baskets, so that the visitor might handle and more carefully examine the products in which he was specially interested; while under permission he might take away with him small specimens. Alongside of these handling samples were shown the "Trade Samples," obligingly supplied by the Indian merchants who deal in produce, and also typical examples of the corresponding manufactured articles prepared in India.

The glass cases in which the index collection was displayed were originally designed by Mr. E. C. Buck, and were sent to the Melbourne Exhibition. They were improved for the Amsterdam Exhibition, and still further for the Calcutta Exhibition. These cases have many advantages: the specimens are better seen through a flat than through a circular glass. Bottles have to be arranged on stands or within cabinets, and are thus removed from a position in which they can be carefully examined. The specimens shown, on the other hand, in small cases arranged upon the wall are brought immediately under the eye of the visitor. Each case was 2 feet by 9 inches and 2½ inches deep. It was divided into four or eight compartments. A visitor wishing to examine any specimen, the case could be removed without difficulty, and the desired compartment opened by withdrawing the glass. For exhibition purposes no system could be more perfect; but it is open to two serious objections. It is difficult to

arrange many hundreds of such boxes so as to produce an attractive display, and when so arranged the specimens cannot be preserved for more than a few years. It is quite impossible to make a compartment air-tight which is covered by a removable sheet of glass. This objection is minimised, however, as far as India is concerned by the fact that the most perfect glass-stoppered bottles are absolutely no protection against the insects which rapidly attack and destroy collections; nor do they prevent the mould and decomposition which in the rainy season must of necessity destroy every year large quantities of economic collections, however carefully they may be looked after. Indeed, if repeatedly handled, dusted, and exposed to the sun, specimens not merely of grains and other products, but of art manufactures, will keep much better in large cabinets than if enclosed in small air-tight cases, so long as they are protected from dust. This was fully confirmed by the experience of the Calcutta Exhibition, the specimens in bags and baskets being, but for the dust, at the close of the Exhibition in a much better condition than those preserved in glass cases.

Having indicated the general system pursued in organising, classifying, and exhibiting the collections deposited in this Court, some of the more important and interesting exhibits may now be briefly reviewed. In the course of this review the reader will be conducted through the Court, and, where it is thought necessary, brief notices of the larger or commercial products, which were shown in each section will be extracted from the official catalogue, and under quotation marks a few passages descriptive of the Court will be reproduced from the public newspapers. With the view of more fully illustrating the manner in which the subject of "Indian Economic Products" was dealt with, the section devoted to food-stuffs will be gone into in some detail; but of the other sections, only the more striking features will be touched upon. For further information the reader is referred to the official catalogue. It may be here explained that the nature of the building allotted to the economic collections rendered it difficult to arrange these sections in a manner strictly corresponding to the parts of the catalogue. This, however, did not prove a serious objection, since each part of the catalogue was bound in a separate volume, and was sold by itself. Part VI, for example, constituted the catalogue to the section devoted to food-stuffs.

SECTION I.—CONTAINING FOODS, FOOD-STUFFS, AND FODDER.

Systems of classification true in every possible detail are always exceedingly difficult to form. Without making pretensions to accuracy, the following popular disposition of the exhibits shown in this section of the Court was found useful:—

CLASSIFICATION OF FOOD-STUFFS.

CLASS I.—*Cereals, i.e.*, graminaceous grains, p. 253.
" II.—*Other grains or seeds*, p. 265.
" III.—*Pulses or peas, i.e.*, leguminous seeds eaten boiled as articles of food, p. 266.
" IV.—*Vegetables*, or products of the vegetable kingdom eaten along with animal food, p. 272.
" V.—*Tubers, bulbs, roots, and stems, i.e.*, solid and generally underground structures which contain a large amount of starch, p. 281.
" VI.—*Starches, sugars, molasses, &c., i.e.*, specially prepared starch food-stuffs, p. 282.
" VII.—*Nuts*, or dry seeds and fruits eaten by themselves either raw or roasted, p. 286.
" VIII.—*Fruits*, or vegetable products eaten by themselves, either fresh or after having been preserved, p. 287.
" IX.—*Condiments and spices, i.e.*, articles used to flavour other foods, p. 290.
" X.—*Jams, essences, syrups, preserved fruits, pickles, confectionery, &c., &c.*, p. 293.
" XI.—Animal food-stuffs, provisions, &c., p. 293.
" XII.—Mineral food-stuffs, p. 293.
" XIII.—Cattle-food and fodder, p. 294.

Note.—For tea, coffee, and wines and spirits (*see Section III*, p. 311).

The classes thus indicated must of necessity overlap each other. The fruit is not always the structure to which the botanist restricts that name, and a fruit is popularly called a "fruit" or a "vegetable" according to habit and use, or the mode in which it is eaten. The above brief indication, however, of the meanings attached to the primary classes of food-stuffs will, it is hoped, assist the reader to follow the classification which was pursued. The importance of the exhibits shown in this section may be illustrated

by the fact that the exports to foreign countries of "grains and pulses" in 1883-84 were 49,217,863 cwt., valued at Rs. 17,60,48,281. This represents 20 per cent. of the entire Indian exports, and of these 2½ million tons, 1,352,000 tons were rice and 1,047,800 tons wheat, all other grains put together amounting to about 100,000 tons. But it must be remembered these figures show only the surplus over and above what was required to feed 250 millions of people. Considerable difficulty is experienced in making calculations of the internal trade of India, but the foreign trade may be seen by a reference to the returns published annually by the Department of Finance and Commerce. From these returns we learn that the total of the imports and exports during the year of the Exhibition amounted to Rs. 1,54,59,52,979—say £150,000,000 sterling. The foreign trade of Great Britain is over £666,000,000, or nearly as large as that of any two other nations in the world.

In the following pages we shall endeavour to show briefly the more important items of the Indian foreign trade in order to illustrate the relative value of the exhibits shown in the Economic Court. To demonstrate the immense importance of the internal trade as compared with the external, we may in passing calculate the probable annual production of grains of all kinds. Taking the population of India to be 250 millions, and deducting one-sixth for infants who do not eat grain at all, we have 210 millions of people to feed. Presuming that on an average each person eats daily half a seer or one pound of grain of some kind or other—and this is a very small estimate—there must at the lowest calculation be raised per annum 34 million tons of grain. The exports for the year under review were only 2½ million tons. This was the surplus over and above what was necessary to feed 210 millions of people. The home trade in grain according to this calculation was thus, compared to the foreign, in the ratio of 34 to 2½.

We shall now proceed to review briefly a few of the more important exhibits shown under these classes:—

CLASS I.—CEREALS.

These may popularly be described as rice, wheat, barley, oats, Indian corn, and the various forms of millet.

I. RICE.—THE TROPHY.

Rice, *Oryza sativa*, (*Linn.*), the *Dhánya*, *tandulam*, *vrihi*, *arunya*, Sans.

Facing the grand transept, and standing opposite to the northern entrance to the Economic Court, was placed the "Rice Trophy." This formed an attractive advertisement for the Court, as it was visible over the greater part of the Indian portion of the Exhibition. It consisted of a circular column rising from a square basement to the ceiling, and terminated by an artistic capital thatched with grains in the ear. Covered with dark scarlet cloth, this column was studded all over with a multitude of spherical bottles, attached by their necks. The bottles were of two shapes,—flattish ones containing husked rice, grouped into isolated rings, so as to cause the pillar to appear fluted, and globular bottles, with unhusked rice. The latter were arranged in vertical lines according to three colours,—red, white, and black. This magnificent display of rice samples was made some few years ago by the Bengal Economic Museum. Comprising as it did nearly 4,000 catalogued specimens, this collection gave considerable anxiety to discover a method by which it could be displayed while at the same time occupying as little space as possible. The idea of a column seemed, however, to have fulfilled to the utmost the object in view, namely, to impress the visitor with the immense number of forms of rice which are known to exist in India. That 4,000 apparently distinct forms of rice exist in Bengal alone seemed to give a new idea to most people; but that they should exist, one can easily understand when the differences of climate and varieties of soils and the vast antiquity of everything purely native is remembered. It is, in fact, impossible to say that the corresponding rices of any two districts are the same, local variations in this being much greater than in any other cultivated cereal. It seems probable that if all the provinces in India were to be worked up with the same degree of care as was done in Bengal, the total number of recognisable forms of rice would be little short of 10,000.

The Peculiarities of Rice.

Some forms are temperate and grow on the hills, often ascending to 8,000 feet in altitude; others occur on the inundated plains or over deep marshes, luxuriating in a tropical climate. These frequently grow up with the rising water until they attain a height of as much as 20 feet.

Soil, climate, and mode of cultivation, during the lapse of centuries, have doubtless all combined to produce from a

common stock the multitude of forms with which we are familiar.

As far as the plains are concerned, rice crops may be referred to two or three primary groups, according to the method of cultivation, season of the year when cultivated, and length of the period required for ripening. These groups receive various names in different districts and provinces, but correspond to each other pretty constantly, being earlier or later, as the result of special peculiarities in climate and soil or season of rainfall. The average condition in Bengal may be expressed as follows:—

1st.—The Áus or Asu Crop.

The forms thrown into this group are the early or autumn rices. They are sown from April to May, on comparatively high lands not inundated during the rains. The seed is generally sown broadcast, and the field is carefully kept free from weeds during May and the first half of June. The crop is harvested from July to August, or even not till September.

The forms of *áus* are the least valuable of all the rices. About one-sixth of Bengal rice belongs to this group.

2nd.—A'man Crop.

This crop comprises the late or cold-season rices. Owing to their ripening on inundated fields, they are sometimes called the floating rices. They are referred to two important sub-groups:—

(*a*) *Chotan áman.*—The early and better sorts of *áman* are of this nature. They are generally sown on seed-beds, and when about nine inches in height they are transplanted into the fields. There are many local kinds of *chotan áman*, of which *ropa* or *rowa* or *roya* are most favourably mentioned. The cultivation of the rices of this sub-group extends from May to October. They do not require deep water, and are often transplanted into the same field upon which a crop of broadcast *áus* is already well established, the crop of the latter being reaped from July to August, and the *áman* continuing to mature till October or November. The better classes of *chotan áman* are, however, grown by themselves.

(*b*) *Boran áman.*—These are much coarser forms of *áman*, and grow habitually in deep water. They are sown for the most part broadcast in *bils* or low-lying lands: they are only occasionally transplanted. The crop ripens in December or January.

The weeding required for the *áus* crop is generally sufficient for a combined *áus* and *áman* crop. As the height of the water rises over the inundated fields the *áman* crop is often observed to grow with marvellous rapidity, as much as nine inches having been recorded in 24 hours at the beginning of the rains. When submerged through a sudden flooding, the crop is, however, completely destroyed. This is the chief danger to the *áman* rices.

The *áman* is the principal crop of rice in the plains, after the harvest of which the land generally remains undisturbed until the end of February, when preparations for the new *áus* crop commence. Sometimes,

however, winter crops of pulses and oil-seeds are taken off the higher *áman* lands.

3rd.—The Boro Crop.

The hot season rices come under this heading. They are transplanted from the seed-bed or sown broadcast from December to February and harvested in April to May. The forms of this group yield an abundant crop of very coarse and hard rice, chiefly consumed by the poorer classes. They are quick-growing rices, one kind of which is known as the *shátia* or 60-days' rice, because in that period, from sowing to harvest, it yields its crop. Only a very limited amount of these rices is cultivated; they are suitable for *churs* or low-lying lands. They are, however, of much value to the poor, since the coming of this crop in the hot season tends to lower the then high rates of other classes of rice. A peculiar kind of *boro* rice is known as *raida* or *bhasha-narango*. This is sown along with the ordinary *boro* rice in December. The young stems are shorn when the *boro* crop is removed, but this does not seem to injure the *raida*. It continues to grow, and yields its crop in September or October, having been thus 10 to 11 months on the field.

Five Crops of Rice a Year.

A proprietor of an estate with fairly mixed soil according to this system might have three, if not four or even five, harvests of rice every twelve months, thus—

(1) *A'us* harvest, from July to August.
(2) *Chotan áman*, from October to November.
(3) *Boran áman*, from December to January.
(4) *Boro*, from April to May.
(5) *Raida*, from September to October.

Two harvests are all but universal in Bengal, with an occasional third but smaller one. Two crops are frequently taken off the same field. Of these groups of rices, the *áus*, *boro*, and *raida* cannot be used at religious ceremonies as offerings to the Hindu gods; but these, together with the *boran áman*, are the rices eaten by the million, the finer classes of *áman* being, from their high price, restricted to the rich. A remarkable fact which may be here noted is that the *áus*, *áman*, or *boro* rices of one district are often so different from those of another, that if interchanged the one will not grow on the fields on which the other has flourished for centuries. Here the European farmer is confronted with a problem scarcely known to his scientific agriculture; but although it is difficult to follow his reasonings, the rice-cultivator of India will detect the one from the other with a perfectly marvellous degree of certainty.

Some forms of rice are scented, while the majority have no smell whatever. Scented rices are common, for example in Orissa and Behar, and are much prized by certain classes of people. Of the scented rices, *benáphuli*, *kamini*, *bansmati*, and *ránduni-pagla* (or cook-maddening), are considered the most superior. The better class natives eat the long thin white *chotan áman* rices, chiefly cultivated upon higher lands; while the short, thick, more or less reddish rices—the so-called Patna rices—are those eaten by the mass of the people of India. The Mohammedans prefer an absorbent rice, such as that from Pilibhit. In Burma, amongst many other high-class rices, a grain is

grown which, while largely used for industrial purposes, is regarded as unwholesome as an article of food. One of the most curious peculiarities recently brought to light regarding rice is that while the great mass of rices contain only one grain within the husk, two or even three grains are regularly present in certain rices.

Wild Rices.

In the marshes and tanks of Bengal wild rice—*uri or jará-dhán*—is very plentiful. It is a large coarse grower, with much branched and distorted stems. When young, it is exceedingly like some of the forms of *áman;* but as the water rises, it grows with marvellous rapidity, keeping above water and spreading all over the marsh. At this stage the floating leaves are small and unlike those of the cultivated rices; but the grain is not only exceedingly like rice, but is regularly collected and eaten. *Uri* becomes in some districts the cultivators' greatest enemy, spreading from the marsh over the neighbouring and inundated fields of *áman*, and from its hardier nature it often almost exterminates the cultivated plant. A remarkable peculiarity, and one which largely accounts for the difficulty experienced in eradicating this weed, is that the moment the grain is ripe it falls from the ear into the water and is thus self-sown. The fishermen collect the grain, however, by binding the *uri* into tufts, and in this way preserve the ripe grain until harvest, when in their palmyra-palm canoes they float about, carefully cutting off the ears of rice or shaking the grain into their primitive barges, thus often reaping a good harvest from the self-sown *uri* crop.

There seems very little doubt but that this is the wild plant from which all our forms of cultivated rice have been derived. This is probably the case with the Burmese and Chinese as well as with the Indian rices, for the *uri* is wild in all the tropical, marshy countries of South Asia. The probability is, however, that the cultivation of rice commenced in China and spread to India, being introduced into Egypt at a comparatively recent date. The Greeks became acquainted with it through Alexander. In Europe it was first cultivated in 1468, in Italy.

On the hills in many parts of India another wild rice is occasionally found. This the late Dr. Roxburgh named *Oryza coarctata*, (*Roxb.*). Instead of growing in water, it frequents rocky woods, about 2,000 to 3,000 feet in altitude. The hard, horny, almost woody underground stem, and the small but broad plicate leaves, resembling those of a species of *Panicum* more than of *Oryza*, at once distinguish this species from the preceding. The flowers, and also the grains, however, are quite those of cultivated rice; but the whole plant is so exceedingly peculiar, that it seems highly probable this is a perfectly distinct species from the *uri* and from the cultivated forms of rice. Mr. C. B. Clarke (*Linnean Society's Journal, XXI*, 255), speaking of this plant, says:—"Indeed, the natives tell me that it is a high-class food rice, and that though so scanty and troublesome to collect, they sometimes set their children to gather a little as exceptionally good in quality."

Trade Returns in Rice.

During 1882-83 it was calculated that 60,000,000 acres were under rice cultivation, of which Bengal had 37,500,000 acres. The Indian rice trade (excluding Burma) is chiefly for

home consumption—a fact which may be shown by comparing the area under rice and the exports to foreign countries with those for wheat or any other important product. The area under rice may be put down as 60 million acres. The foreign exports for 1883-84 were husked rice 26,831,715 cwt., valued at Rs. 8,32,88,786, and unhusked rice 208,144 cwt., valued at Rs. 3,32,012. In 1881-82 the area under wheat was estimated as 21 million acres, and has since then been materially increased. The exports for 1883-84 were 20,956,495 cwt., valued at Rs. 8,87,75,610. Allowing for imperfections, we have in round figures the fact that, raised from one-third of the area under rice, the exports of wheat are relatively greater and much more valuable than the rice exports. In certain parts of Bengal a surplus of rice is raised for export, but the foreign market is chiefly met by British Burma. Within the past few years, however, the foreign trade in rice may be said to have been almost ruined. This in a large measure is due to the fact that sugar can now be got in Europe as cheap as rice, and at the same time the abundant harvests of wheat both in Europe and America have reduced the price of wheat to a point lower than has been known for the past hundred years. Within the last few years an important item in the rice export trade has been the demand for the grain as a source of spirit. Sugar, wheat, maize, and potatoes being at the present moment at such a low figure, rice has, however, failed to hold its own. At the same time the Burmese cultivators, from a mistaken idea of raising the rate, have withheld supplies until the prices obtained in Europe do not correspond with those paid in Burma. The heavy export duty levied on rice has also greatly helped to produce the present depression in the rice trade.

It is an interesting fact that out of 4 million acres of cultivated land nearly 3 are in British Burma annually under rice cultivation. Perhaps no other country in the world, except Australia in wheat, could be shown to possess so remarkable an agricultural monopoly in favour of one product.

Improvement of Rice Cultivation.

In concluding this account of rice, it may be stated that the results of the Exhibition abundantly showed that to improve the quality of the rice grown in the country the first and most important step would be to institute a combined inquiry into the subject of rice with the view of establishing some convenient system of classification. This would determine the approximate areas under cultivation of

good and bad classes of rice. An interchange of seed might then be made, having in view the replacement of bad forms with those of better and more profitable kinds. The establishment of Government or of co-operative nurseries or seed-beds in selected centres in each district would also effect radical improvements. From these beds seedlings ready for transplantation, or a good quality of specially reared seed, might be supplied to the neighbourhood. The dangers due to delay in the breaking of the rains might be mitigated by mutual action in irrigating the nurseries, thus keeping the seedlings alive against the time when the fields were in a fit condition for transplantation. By careful cultivation and manuring nurseries of this nature might be made most efficient agents in agricultural reform. They would establish the principle that improvement was possible and necessary, and would remove in a large measure the dangerous consequences of in-and-in production of the same crop from the same seed and on the self-same field year after year. It seems almost hopeless, under the existing conditions of the cultivator, to effect radical changes in the indigenous systems of agriculture—systems which are the result of the adaptation of centuries to the special conditions of the country. There is little doubt, however, that the quality of the seed-stock might be greatly improved. Deterioration can not only be shown to have taken place, but very inferior sorts of rice appear to have been cultivated from time immemorial in certain districts where by some system of exchange superior sorts might easily enough be substituted. By a system of nurseries the production of improved seed suitable for each locality might be reared in each district, and that, too, by the cultivators themselves; while at the same time by this system, as has been said, the dangers might be averted which often overtake the poorer cultivator through a delay in the breaking of the rains.

The "Cereal Gateway."

Turning from the rice trophy, the visitor was confronted by what was known as the "Cereal Gateway." This constituted the entrance at the northern end of the Court. It consisted of three arches completely thatched with grains. A multitude of Indian corn cobs formed the chief feature, the different forms and shapes of cobs being so arranged as to bring out effective designs. The words "Economic Court" on the one side, and "Maize" on the other, were inscribed in cobs. The inner surface of the arch was thatched with pendulous tufts of 300 samples of rice in ear, and the various

designs were completed with sheaves of wheat and of the multitude of forms of millet. "We have wandered behind many a group of visitors, and stealthily snatched parts of their conversation, but we have heard no one guess the true nature of the distant arch until the word 'Maize' burst on the view. Closely packed together, in wavy lines or studded in vertical rosettes, about 10,000 cobs have been built into this arch, some of deep claret colour, others yellow, brown, white, or mottled. A fringe of the blue-coloured spikes of millet (*bajra*) forms a neat outline to some of the designs." (*The "Pioneer."*) Seen from the south end of the Court, this arch was much admired by the visitor, and was pronounced exceedingly effective. It seemed to have fulfilled the object for which it was designed, namely, to convey an idea of the immense wealth which India possesses in her cereal crops, of which wheat is doubtless one of the most important.

II. WHEAT—*Triticum sativum*, (*Lam.*).

In the Economic Court was displayed a large set of commercial samples of this grain from Bombay, Upper Sind, the Panjáb, the North-West Provinces, and the Central Provinces. Wheats are grouped primarily into what are known as *hard* and *soft* wheats. Soft wheats are in most demand for the United Kingdom, while the hard forms go chiefly to the Mediterranean, and are also preferred by the natives of India. Each of these two classes of wheats are referred to divisions according to colour, white or red, and are again subdivided according as the grain is bearded or beardless.

The best Indian wheats are the fine soft white forms. In their most valuable report on Indian wheat, Messrs. McDougall Brothers say:—

"To any one experienced in the requirements of the wheat and flour markets of the United Kingdom, and, indeed, of most other countries, it will be evident there is no probability of these Indian wheats coming into demand for manufacture into flour *without a liberal admixture* of other wheats. They all possess in a marked degree the same characteristics of great dryness, and a distinct beany and almost aromatic flavour, inseparable from wheats grown in the climates and soils of the tropics. Also the flours are ricey, the texture of the breads is too close, and the crust is hard and brittle. But these characteristics do not detract from their usefulness in any important degree.

"We pronounce them to be exceedingly useful wheats; in fact, hardly equalled for what is deficient and wanting in the English markets by any other wheats. These chief characteristics are just those in which the wheats grown in our variable climate are most deficient. Their great dryness and soundness render them invaluable for admix-

ture with English wheats that are in any degree out of condition through moisture . . . . . Added to their dryness, the thinness of the skins of these wheats, and consequent greatness of the yield of flour, must always place them in the front rank as a 'miller's' wheat, whenever they are handled with reasonable intelligence and skill.

"Such unprecedented yields of flour as shown by these wheats, ranging (by ordinary grinding) from 77·46 to 80·52 per cent., against English 65·2 and American spring 72·2, speak volumes in their favour, and their value is still further increased by another point of merit of almost equal importance, viz. a larger percentage of bread may be obtained than from any other of the flours included in this review.

"Glancing at all the facts here elaborated, it is evident that these wheats afford a larger margin of profit both to the miller and baker than any other."

Messrs. McDougall Brothers, in giving publicity to their most interesting experiments, have rendered a service of incalculable value to India. In addition to placing Indian wheats in a distinct and recognised position commercially, they have made known many scientific facts of great interest as well as technical features of the wheat and flour trade not generally known. The superior nutritive quality of bread as compared with rice, Indian corn, potatoes, and other well-known foods containing starch, depends upon the proportion of gluten or nitrogenous compounds present in the flour. The elasticity of bread is also due to the gluten, and consequently it is generally believed that upon this constituent depends the yield of bread from flour. But this is not the case, unless at the same time a high percentage of gluten be associated with a high degree of dryness, for it is upon dryness that the yield of bread mainly depends.

In a communication received from Mr. J. McDougall, of Messrs. J. R. Lamb & Co., Glasgow, it would appear that Indian wheats have not found their way to any appreciable extent at least into the Scotch market. This seems to be mainly due to the difference of the Scotch system of baking as compared to the English, the flours from Indian wheats not being strong enough for the Scotch system of baking. "Indian wheat is not a favourite in this market, as it does not suit the Scotch style of baking, which is in the hands of a special craft, and not home-baking, as in England. The Indian wheats are found not to possess sufficient gluten for the machinery and style of fermentation adopted in Scotland. They are classed with Californian, Oregon, Chilian, New Zealand, and some other beautiful white starchy wheats, which all find their best markets in England and Ireland, where home-baking is much more general than in Scotland. In consequence of this, a larger proportion of the dearest and most expensive flours are used in Scotland than in England and Ireland combined, these being Hungarian and Minnesota, ranging from 34 shillings to 40 shillings per sack of 280lbs., whilst the wheats chiefly consumed in England and Ireland may run from 24 shillings to 30 shillings a sack of 280lbs."

Indian wheats were not much known or appreciated in the European markets previous to the year 1871-72. From that

year some attention was given to the subject, and the Government of India, following up the movement, abolished in January 1873 the export duty of 3 annas per maund. The result was that from that year the exports rose suddenly, and the wheat trade has since then steadily increased. Quick communication with Europe through the Suez Canal assisted this development. The total area under wheat cultivation was in 1880-81 calculated at 20,515,771 acres. The outturn of grain from irrigated land is often as high as 15 maunds an acre, but it varies to 6 maunds on the unirrigated land. The cost of cultivation in the Central Provinces has been estimated at Rs. 15 to Rs. 16 an acre for unirrigated lands, and Rs. 22 to Rs. 24 for irrigated, and this may be viewed as a fair average for all the wheat-producing districts. The total exports for the years 1880 to 1884 were as follows :—

Official years.				Cwt.	Rs.
1880-81	...	...	...	7,444,375	3,27,79,416
1881-82	...	...	...	19,863,520	8,60,40,815
1882-83	...	...	...	14,144,407	6,06,89,341
1883-84	...	...	...	20,956,495	8,87,75,610

Of the above exports in 1882-83, the United Kingdom took 6,575,160 cwt.; France, 3,567,712 cwt.; and Belgium, 1,458,898 cwt. In 1883-84 the United Kingdom took 10,508,210 cwt.; France, 3,397,908 cwt.; Egypt, 3,305,999 cwt.; and Belgium, 2,593,577 cwt.

III. THE MILLETS.

The "Trophy of Indian Millets."

On entering the Court, by passing under the cereal arch, one of the first objects which attracted attention was the trophy designed to illustrate the Indian millets. This consisted of a circular stand with several hundred bottles attached by their necks and arranged in zones, forming a cone. Where rice is not cultivated as the staple food, the millets are exceedingly important. This is the case in a marked degree in wheat-producing districts, thus showing conclusively that the bulk of the wheat is grown essentially for foreign trade. With the exception of Burma, rice is grown almost exclusively for home consumption; and where rice cannot be cultivated, the millets invariably take its place as the staple food-crop of the mass of the people. The exports of millets to foreign countries were in 1882-83 491,830 cwt., valued at Rs. 12,53,214, and in 1883-84 only

248,110 cwt., at Rs. 6,51,613. The following are the more important millets:—

(1) *Sorghum vulgare*, (*Pers.*)—the Great Millet or Guinea Corn, more generally known in India under its vernacular names of *Juar* and *Cholum*.

This is perhaps the most important of the millets, and with the next species is regularly exported. In 1882-83 the joint exports were 491,830 cwt., valued at Rs. 12,53,214, and in 1883-84 they were 248,110 cwt., valued at Rs. 6,51,613. According to some authors, this plant is viewed as indigenous to India and China. It is cultivated in Lower Egypt at the present day under the name *dourra*, and an analogous form is wild in equatorial Africa. De Candolle inclines to the view that it is more probably a native of Africa than of Asia.

(2) *Pennisetum typhoideum*, (*Rich.*)—the Spiked Millet or *Bajra*.

A native of tropical Asia, Nubia, and Egypt. Cultivated to a large extent in Northern and Southern India, especially on the Coromandel Coast and in the North-Western Provinces during the rainy season. The grain is used chiefly by the lower classes of natives, and is eaten in the cold season. It is considered heating, but more nutritious than rice. The fodder is much used.

(3) *Eleusine corocana*, (*Gærtn.*)—*Ragee* or *Marua Millet*.

A procumbent grass, most probably a native of India, and widely cultivated during the rainy season, but chiefly in South and West India. It has been cultivated in Egypt within modern times, and is mentioned by Sanskrit authors under the name *Rajika*, but apparently was not known to the Arabs, Greeks, or Romans. This is regarded as the staple grain of Mysore, being stored in huts. A fermented liquor is made from it, as also a kind of beer.

(4) *Panicum miliaceum*, (*Linn.*)—*Chena* or the Common Millet.

This is considered a native of Egypt and Arabia, and was evidently introduced at a very early date into India. Its cultivation is pre-historic in Europe, Egypt, and Asia. In point of value as a food-stuff, it is supposed to be inferior to *Setaria italica*, (*Beauv.*), and fetches accordingly a much lower price. It also grows very much more slowly than that species, but has one advantage of great importance to the poor hill tribes: it may be successfully cultivated on indifferent soils up to an altitude of 10,000 feet. The straw is of no use as a fodder, and is accordingly rejected.

(5) *Panicum frumentaceum*, (*Roxb.*)—*Shamula* or *Sawan*.

This is the most rapid growing of all the millets, affording through its early ripening a cheap grain before the main autumn food-crop is harvested. It is subject to the danger of destruction through excessive rain and blight. The grain is wholesome and nourishing, and is a favourite with the poorer class.

(6) *Paspalum scrobiculatum*, (*Linn.*)—*Khoda* or *Kodon* Millet.

A native of India, luxuriating in a light, dry, loose soil, being cultivated in the rainy season. It is far more extensively cultivated than any of the other minor millets, owing to the readiness with which it may be grown on indifferent soils. It is a common and

cheap grain, and is an important article of food with the poorer classes, particularly those who inhabit the mountains and the more barren parts of the country; but it is considered as unwholesome, as it tends to produce diarrhœa. It is said to have an intoxicating effect. The straw is given as fodder to cattle.

(7) *Setaria italica*, (*Beauv.*)—German or Italian Millet, the *Kangni* of the North-West.

This is regarded a native of China, Japan, and the Indian Archipelago. It is, however, extensively cultivated in India, both on the plains and ascending the hills to 6,000 feet above the level of the sea. Two crops may be taken off the same field a year, but it is chiefly grown as a subsidiary crop. There are two varieties. It is much approved as an article of food. The flour is made into pastry, and is valued as a food for invalids. The Brahmins specially esteem it. The grain is in great demand as a food for cage-birds. The straw is not much valued.

The most striking feature of the cereal gateway was doubtless the interesting collection of—

IV. INDIAN CORN OR MAIZE, *Zea Mays, (Linn.)*.

As this, after the millets, is perhaps the next most important Indian food-stuff, it may not be out of place to say something regarding it here. In his *Origin of Cultivated Plants*, De Candolle has shown conclusively that maize was unknown before the discovery of America. Zea is a remarkable illustration of a genus containing only one species; and indeed the genus even has little in common with its nearest allies.

Roxburgh, who wrote shortly after the beginning of the present century, says it was in his time cultivated in gardens as an ornament, "but nowhere on the continent of India as an object of cultivation on a large scale." The rapidity with which it has spread all over the empire until it must now rank as one of the most important food-crops is a powerful proof of its being a modern introduction, since so useful a plant was certain to have taken its present position thousands of years ago had it existed in the country at all. While cultivated extensively, in every district in India, it is not exported, but is either eaten green as a vegetable or is matured as a grain-crop. There are many varieties,—some with white grains, others yellow, dark red, orange, or mottled.

V. OATS, *Avena sativa, (Linn.)*.

Introduced within the past fifty years, this crop has only gained favour in the neighbourhood of cantonments as a food-supply for horses. It is accordingly chiefly met with in

Northern India. With copious watering a valuable crop of green fodder may be obtained in the cold season. Oats do not appear to be cultivated in India as an article of human food, but in 1882-83 there were exported 66,706 cwt., and the trade is capable of considerable development should necessity arise.

VI. JOB'S TEARS, *Coix lachryma, (Linn.)*.

This curious grain might almost be described as unknown to the natives of India generally except as a weed of cultivation. To the hill tribes on the eastern frontier, however, it is an important article of food. The Karens, a tribe in Burma, use a long variety for ornamental purposes, sewing the pretty shining grain all over their costumes. An interesting series of specimens of this grain were exhibited from Assam and the Naga Hills, as also decorative articles ornamented with it.

Having now briefly noticed some of the more important cereals, before proceeding to the pulses, it may be as well to allude in passing to the intermediate group of food-stuffs which were placed in section, described as

CLASS II.—OTHER GRAINS AND SEEDS.

This included the forms of the grain-yielding amarantus and buckwheat. The former, in some parts of India, as for example on the Panjáb Himalaya, is a most important article of food. During the autumn the terraced hillsides are speckled with the golden plots of this crop. There are two primary varieties,—one green, becoming yellow when ripe, the other dark red. The garden plant known as Love-lies-bleeding is also to a limited extent cultivated for its grain, but it is admittedly an introduction, while (*Amarantus paniculatus, (Miq.) var. frumentaceus, (Buch.)*, the *báthu* of the hills, seems in all probability to be indigenous. Buckwheat, *Fagopyrum esculentum, (Mœnch)*, the *chin*, although cultivated in many parts of India, is by no means an article of much importance. The seeds are ground to flour and made into thin cakes. It is chiefly sold for the purpose of feeding fowls, pheasants, &c. A curiosity in the way of food-grains may be mentioned in *Perilla ocimoides, (Linn.)*, a member of LABIATÆ or mint family. This is regularly cultivated for its small aromatic seeds—*kenia* of the Naga Hills. Of amarantus and buckwheat fairly good collections were shown.

Against the wall was exhibited a cone-like design consisting of some 300 bottles containing pulses. These may be briefly defined as leguminous seeds eaten as a regular article of diet, not as a luxury. One of the most curious and interesting features of an Indian bazar is the baskets of whole and split pulses, peas, and lentils of all colours—white, black, brown, green, grey, red, &c.—shown by the dealers. This was fully taken advantage of in assorting the bottles and baskets of pulses shown in the Exhibition.

There are probably not more than two or three kinds of pulse exported from India; but as the quotations of sea-borne trade are given collectively, the relative amounts of each kind cannot be accurately expressed. It may be stated of the pulses as a whole, however, that they form an exceedingly important article of internal trade, and that during the year of the Exhibition there were exported 806,803 cwt., valued at Rs. 24,70,932.

The following are the more important pulses:—

(1) *Cicer arietinum*, (*Linn.*), LEGUMINOSÆ. — The Common Gram, or Chicken-Pea, the *Chola* or *Chena*.

This is cultivated throughout India in any soil, giving, however, the largest return in heavy soils. De Candolle regards it as originally a native of the countries to the south of the Caucasus and to the north of Persia. It was probably carried into India by the Western Aryans at an early date, and prior to the time of its cultivation in Europe; but there seems some probability that the wild stock was also indigenous in Greece.

In India there are two sorts—one, a large reddish grain; the other, a small light-brown one. During the year 1882-83 there were exported 312,953 cwt., valued at Rs. 8,28,647, and in 1883-84 there were 392,694 cwt., valued at Rs. 11,99,796. Madras and Bengal supplied the bulk of the exports, the major portion of which was consigned to Mauritius and Ceylon.

(2) *Cajanus indicus*, (*Spreng.*)—The Pigeon-Pea.

Vern. *Arhar dhal* Beng. and Hind.; *Arhuka* of the Sanskrit writers.

This is apparently a native of equatorial Africa (De Candolle). Cultivated in most parts of India, constituting an important article of food.

There are two chief varieties: *C. flavus*, (*DC.*), with the pea plain yellow, and known in the vernacular as *thor*, and *C. bicolor*, (*DC.*), with the pea veined with purple, and known as *arhar*. The latter is the one most commonly cultivated in the North-West Provinces and Oudh,

while in the Central Provinces and the Deccan *thor* takes the place of *arhar*. It is grown mostly as a subordinate crop along with *jowar*, *bajra*, and cotton, sunn, jute, &c., and alone to a comparatively much smaller extent.

About six seers of seed are required for an acre if sown singly, and two seers when along with other crops. It is sown at the commencement of the rains, and is reaped in March or April, with an average outturn of seven maunds of grain and 16 maunds of *bhusa* per acre of land on which *arhar* is the only crop, and of one to five maunds when grown along with other crops. The leaves are considered an excellent fodder; the stalks are used for roofing, basket-making, and the tubular wicker-work fascines (*bira* or *ajar*) used to line wells to prevent the earth from falling in.

(3) Next in order of importance of pulses must be mentioned the kidney bean family, the species of *Phaseolus*. Of these the most useful are doubtless the various forms of *Mung*:—

1st.—Phaseolus Mungo, (*Linn.*).

(*a*) *Variety Max*, (*Roxb.*),—in the vernacular known as the *Mung* or *Mug*, and in Sanskrit as *Mudga*.

This is sometimes spoken of as the green gram. It is a native of India, but has been cultivated for at least 3,000 years. It is met with throughout the plains, and ascends to 6,000 feet in the outer ranges of the North-West Himalaya. It requires a strong, rich, dry soil; is seldom grown alone, but generally as a subordinate crop in fields of millet or cotton. The seeds, at the rate of 12 seers per acre, are sown at the commencement of the rains, and the crop is reaped in October, a fortnight before the millets. The outturn of grain is stated by Roxburgh to be thirty-fold, but by Messrs. Duthie and Fuller about five maunds to the acre (nine-fold): the latter is probably nearer the mark.

The ripe grain is wholesome and nutritious, much esteemed, and commands a comparatively high price. The crushed stalks and leaves are prized as fodder for cattle.

(*b*) *Variety radiatus*, (*Linn.*). *Mash-kolai*, Beng.; *Urd mash*, Hind.; *Masha*, Sans.

This variety differs from *P. Mungo* proper in having longer and more trailing stems, in the plant being much more hairy—the reddish brown pubescens giving the foliage a lighter tint—; in the seeds being fewer, larger and longer, and usually of a dark-brown colour. (*Duthie and Fuller*).

It has two distinct sub-varieties—one with large black seeds, ripening in August and September, and the other with smaller green seeds, ripening in October and November. Both are, however, sown at the commencement of the rains: the soils which suit the crop are of the heavier classes. It is cultivated in most parts of the plains as a subordinate crop with millet or cotton.

2nd.—Phaseolus aconitifolius, (Jacq.).

Vern. *Moth, mothi,* Hind.; *Mokushtha,* Sans.

Found from the North-West Himalayas to Ceylon, tropical regions up to 4,000 feet. Closely related to *P. trilobus,* and agreeing with it in the character of the flowers and in the general habit. Cultivated as a hot-weather or *kharif* crop in the plains, in dry, light, sandy soil. In many parts of India it is quite as much cultivated as *urd.*

In the North-West Provinces and Oudh it is grown as a sole crop and also among millets. The area under *moth* as a sole crop is returned at 2,11,906 acres in the thirty temporarily-settled districts; the seed is sown broadcast at the rate of four seers to the acre; the average outturn is eight maunds of grain to the acre, with rather less than double this amount of fodder. (*Messrs. Duthie and Fuller*). It is not possible to give the total area in all India which is annually under this pulse, but it is by no means an unimportant crop.

The grain is used as food by the natives, but is not considered wholesome. It is also used as cattle-food, and is regarded as a fattening diet. The leaves and stalks are also given to cattle.

3rd.—Phaseolus trilobus, (Ait.). This is known in the vernacular as *mugani,* Beng.

Ranges throughout India, wild and also frequently cultivated; ascends in the North-West to 7,000 feet. Seeds gathered and eaten by the poor. Affords good fodder. (*Voigt.*) De Candolle (*Origin of Cultivated Plants*) is not quite correct in regarding this as a more important plant than the preceding.

4th.—P. vulgaris, (Linn.)—Kidney or French Bean, or Haricot.

Cultivated, for the sake of its young pods in all parts of India, chiefly in gardens. The green pod and its immature beans are cut up into slices, boiled, and eaten, but it is scarcely, if ever, used by the natives.

(4) We may now allude to the *barbatí* or *lobia,* not so much because of its importance, but rather in consequence of its close resemblance to the beans.

Vigna Catiang, (Endl.)—The Chowlee of India.

Vern. *Barbati,* Beng.; *Urohi mahorpat,* Ass.; *Thathep,* Khampti; *Boberloo,* Tel.; *Lobia, rawás, rausa, sonta,* N.-W. P. and Oudh.

Universally cultivated in the tropical zone of India on account of the grain, which forms one of the summer crops raised along with the millets, and ripening in October and November.

The pod is sometimes as much as two feet in length, and contains a number of seeds. These constitute a considerable article of food, but the crop is not much valued on account of the seed being difficult of digestion. In Bengal the young green entire pods are cooked in curry. The leaves and stems are used as cattle-fodder.

Green Indigo.

Regarding this plant a curious fact was brought to light in connection with the Exhibition. A piece of cloth dyed a beautiful green colour came from Assam,—a sample of dyeing as practised by the Khamptis. The colour was said to be produced from a common plant. A reference was at once made by Dr. Watt asking for a sample of the plant from which this dye was extracted, when a half-rotten and fragmentary bundle of what appeared to be *Vigna Catiang* was received Regarding this exceedingly interesting discovery Mr. J. M. Needham, Assistant Political Officer, Sudiya, says that the plant is known in Assam as *Urohi mahorpat*, and to the Khamptis as *Thuthep*. He gives the process of extracting the dye as follows:—"Crush the creeper and leaves of the *Urohi mahorpat* in a 'denki' or pestle and mortar to extract the juice, thereafter mix with this the juice of *Thekara tenga* (*Garcinia pedunculata*) ¼th to ⅝th of *Urohi* juice. Leave standing in the sun for four hours, when the mixed juices or dye solution will be ready for use. The article to be dyed should be dipped into this, squeezed, and dried, the process being repeated three or four times." (For further information regarding *Thekara*, see page 76.) During the Exhibition the attention of several gentlemen from Assam was directed to this subject, and inquiries made as to whether the green dye was a simple colour or only a blue mixed with yellow. Mr. K. K. Gogoi Hatti Borcoah, a native gentleman from Assam, assured Dr. Watt that the dye was a simple colour, and that the juice of *Garcinia pedunculata* was added to increase the brilliancy of the green colour, and that to fix it common country sulphate of iron was used as a mordant. The matter is presently being further investigated, and it will be a curious fact in the history of dyes if the green colour afforded by a plant so well known (a plant which has been cultivated throughout the plains of India for probably 2,000 years) is only now made known to us, and that, too, by a savage hill tribe on the Chino-Assam frontier. We know that *Cicer*—the gram—yields ordinary or blue indigo; but if it is finally established that *Vigna Catiang* actually gives a simple green dye, this will prove one of the most interesting and valuable results of the Exhibition.

(5) *Ervum Lens*, (*Linn.*)—The Lentil.

Vern. *Masur* or *masurí* Hind.

This appears to be originally a native of Western Asia, Greece, and Italy. At a very early date it was introduced into Egypt as a cultivated plant, and from this centre it spread east and west, reaching India probably about 2,000 years ago. The meal from this pulse is sold in Europe as a food for invalids under the name of EVALENTA OR REVALENTA.

In India it is largely grown as a winter-crop, and it is universally eaten cooked, both by natives and Europeans. In the Panjáb, excluding perhaps the more arid tracts, it is grown everywhere in the plains and hills, and up to an altitude of 10,000 or 11,000 feet in the Himalaya. In the North-West Provinces and Oudh it is sown in all kinds of soils, but chiefly in low land (one maund of seeds to the acre), and produces on an average 6½ to 8 maunds grain per acre from unirrigated, and from 10 to 12 maunds from irrigated land. The average area covered with the crop in the 30 temporarily settled districts, North-West Provinces, is

about 114,225 acres. In Bengal and the Central Provinces it is also cultivated to some considerable extent.

A trade is carried on in this pulse; but as the returns do not specify separately the various pulses, it is not possible to give separate figures regarding this species.

(6) *Glycine Soja*, (*S. & Z.*)—The Soy Bean.

This is known in the vernacular as *Gari-kulay*, Beng.; *Bhat, bhatwan*, Hind.; *Tsu dza*, Naga. This plant is densely clothed with fine ferruginous hairs, is sub-erect; met with in the tropical regions and the outer Himálaya, from Kumaon to Sikkim, the Khasia and the Naga Hills to Upper Burma. Dr. Stewart mentions a field of *bhat* having been observed in Bissahir in the Panjáb, altitude 6,000 feet. The plant is chiefly met with in a state of cultivation. Dr. Roxburgh first saw it from seed received from the Moluccas in 1798.

De Candolle views it, and apparently correctly, as a native of Cochin China, Japan, and Java. But he remarks that "it is of modern introduction into India." "There are no common Indian names" for it. This seems to be a mistake; the plant is well known in India under the names given above. In Manipur and the Naga Hills it is one of the most abundant of pulses. Its Naga name is *Tsu dza*, a name not unlike *Soja*, but at the same time it may be viewed as related to the old Chinese name *Shu*. The Soya most likely reached India from China, passing by way of Assam. But while it cannot be said to be wild on the Naga hills, from the existence of so large a percentage of Japan and Java plants on those hills, the Soya might quite probably have had its most western home on the mountain tracts bordering on Assam. The importance of these hill tracts in settling questions of the nativity of cultivated Indian and Chinese plants has not been fully appreciated, and we might fairly anticipate that many statements at present accepted as facts will be considerably modified with an extended knowledge of the wild and cultivated plants of the Assam and Chinese frontier. The thorough exploration of this region is very desirable.

This pulse is an important article of food in Tibet. It is made in India into a sauce called "Soy." The advisability of extending its cultivation on the Himálayan tracts was pressed on the Government of India in 1882 by Professor Kinch, and the attention of local Governments also was called to it.

(7) *Lathyrus sativus*, (*Linn.*)—The Jarosse or Gesse.

Vern. *Khesari*, Beng.; *Kasari, kassar, tiura, tiuri, latri*, N.-W.P.

This pulse is common in the Northern Provinces of India, from the plains of Bengal to Kumaon, where it reaches 4,000 feet in altitude, often cultivated and in some places wild. When cultivated, it is sown about the close of the rains (October) in heavy clay soils and on land hardened through submersion, and occasionally in rice-fields before the rice is cut. Its cultivation in the North-West Provinces and Oudh is more common in the eastern districts and in parts of Allahabad and Azimgarh. It is also extensively grown in Bengal and other parts of India. No reliable statistics of its area are procurable.

It is chiefly used as a green fodder for cattle, and seems to spring more as a weed of other crops. The seeds are very irregular in form, generally wedge-shaped, gray-coloured, and minutely spotted. They have in Europe the reputation of causing paralysis of the lower extremities. In the Proceedings of the Government of the North-West Provinces for 1866, pp. 265 to 295, Dr. Irving gives an interesting account of the prevalence of a form of palsy in the Barrah and also in the Khyragurh divisions of the Allahabad district. He attributes the disease to the habit of eating as an article of daily food the *kasari* vetch. He bases his opinion on the fact that the peculiar disease is met with only in districts where this pulse is eaten as a regular article of food. The disease appears suddenly, having none of the premonitory symptoms of paralysis, the sufferers having had no previous disease which could be supposed to give origin to palsy. There is no pain, and the affected part, instead of becoming deformed, continues to grow. The disease is confined to the lower limbs, and is much more prevalent amongst men than women, but boys are often found quite lame. The symptoms and history are entirely in favour of the disease being of a paralytic nature and not rheumatic, such as might result from exposure to wet and cold. It would thus seem desirable to discourage the cultivation of this plant as a food-crop. The split pea is largely used to adulterate *dal*, from which it can scarcely be distinguished when sold in the split form. It is used in fact by the poorer classes as an occasional substitute for other pulses, but is hard and indigestible. It is, however, only injurious when eaten continuously as a regular article of food. The troops under General Elphinstone in the first expedition to Cabul suffered very much from the fact of their having to mix this pulse with their food. Pigs fed on the *kesari* are said to lose the use of their limbs, but fatten well.

(8) *Dolichos biflorus*, (*Linn.*)—the Horse Gram.

Vern. *Kurti-kalia*, Beng.; *Kulthi gahat*, Hind.; *Kulutha*, Sans.; *Kallat*, *kulat*, *barat*, *gulatti*, Pb.

There are two very distinct varieties of this pulse—the one an erect annual (*var. uniflora*), the other a twining herb (*var. biflora*), met with chiefly in a state of cultivation as a pulse crop on the tropical and subtropical Himalaya, to Burma and Ceylon. It is extensively cultivated on the coast. It is sown either singly or along with other grains. The sowing is made in October and November, generally in dry, light, rich soils; and the crop is reaped in February.

The grain is eaten by the poorer classes of natives and by horses and cattle. The straw is given to cattle as fodder. The pods are flat and curved like a sickle, and used for feeding cattle.

(9) *D. Lablab*, (*Linn.*).—This may be called the Indian Bean.—It is known in the vernacular under a large number of names, of which the following may be mentioned:—*Shim*, *makhan-sim*, *barbati*, Beng.; *Sim*, *loobia*, Hind.; *Shimbi*, Sans.; *Kechu*, Naga.

Wild and cultivated throughout India; ascends to 6,000 to 7,000 feet on the Himalaya. The climbers may be seen commonly grown along the borders of tall crops, twining round the plants on the margin of the

fields. In some parts of the country the castor-oil plant is a favourite support. They are also grown commonly in little patches round houses and allowed to climb on the walls and roof.

There are several varieties of this bean. Roxburgh describes thirteen cultivated. Most of the forms are eaten cooked in curry by the natives as a vegetable or bean, not as a pulse. When young and tender, they are good substitutes for the common French beans.

(10) *Pisum arvense*, (*Linn.*)—The Grey or Field Pea.

Vern. *Desi mattar*, *chota mattar*, Hind., Beng.; also *Kalon*, *kulai batana*, N.-W. P.

This is supposed to be originally a native of Greece and of the Levant, and probably the parent of *P. sativum*. Cultivated in many parts of India during the cold weather.

Produces small, round, compressed, greenish, and marbled peas. It bears some resemblance in appearance of grain and in mode of cultivation to *Lathyrus sativus*.

(11) *P. sativum*, (*Linn.*)—The Common Pea.

Vern. *Mattar*, *gol mattar*, N.-W. P.; *Harenso*, Sans.

An annual, climbing by means of tendrils; a native of the south of Europe. Cultivated in many parts of India during the cold weather. It includes the white pea, known as *Cabuli* and *Patnai*, according as they are large or small. *P. sativum* is more valuable and prolific than *P. arvense*. It is one of the oldest and most valuable of cultivated legumes.

CLASS IV.—VEGETABLES.

An approximately accurate definition of what should be viewed as a vegetable has already been given, viz., a product of the vegetable kingdom eaten along with animal matter. This, of course, has its full signification only when speaking of European diet; but it is correspondingly true even with the diet of the vegetarian. A vegetable is an accompaniment to a primary article of diet.

In the European vegetable garden of India will be found in the cold season all the ordinary plants cultivated in Europe, some being even quite as healthy as in their native country. It is remarkable, however, that they rarely have their characteristic flavour, and have a distinct tendency to run into larger, and therefore coarser, forms. This doubtless is in a measure due to the fact of their being sown in autumn and reaching maturity with the increasing heat of the approaching summer. Although cabbage, cauliflower, turnip-stemmed cabbage, turnip, beet-root, radish, carrot, asparagus, artichoke, &c., are regularly cultivated by Europeans, with the exception of cabbage, cauliflower, and radish, European vegetables are not used by the natives of India.

The immense trade which has within recent years sprung into existence in cabbage, cauliflower, and radish, is however remarkable, and potatoes (*see p.* 281) may be said to have been accepted as an article of diet by the natives; but there are however many districts where they are never cultivated, while in others they constitute an important crop. All the European vegetables which are eaten by the natives are allowed to grow into monstrously large and coarse forms. The cabbage, for example, is always a foot or foot and half in diameter; the radish, as long; and the cucumber, instead of being eaten in the young, crisp, green state, is allowed to ripen and become nearly the size of a melon. The last-mentioned is, however, a native of India, and the Europeans may therefore be viewed as having departed from the ancient custom. A few samples of European vegetables were shown in the Exhibition, but these are too well known to require any special description here, and we shall therefore proceed to refer very briefly to the leading indigenous or tropical vegetables. Limited space will not permit of an elaborate classification, such as into cooked vegetables, fresh vegetables, or salads and greens. It is impossible to single out any one vegetable as the most important, or to arrange the series of Indian vegetables in order of importance. We shall therefore allude to the vegetables in the alphabetical order of their scientific names; but it may be said in passing that in India the members of the CUCURBITACEÆ or cucumbers take the place of the European CRUCIFERÆ or cabbage family of vegetables.

The foreign exports of vegetables for the past five years were as follows:—1879-80, Rs. 1,74,350; 1880-81, Rs. 2,04,604; 1881-82, Rs. 2,08,735; 1882-83, Rs. 2,43,942; 1883-84, Rs. 2,12,580. The bulk of the exports were from Bombay (valued Rs. 1,20,299) and from Madras (Rs. 79,492).

DIVISION 1ST.—THE MORE IMPORTANT VEGETABLES.

(1) *Benincasa cerifera*, (*Savi.*); CUCURBITACEÆ—The White Melon or Indian Pumpkin.

Vern. *Kumrá*, Beng.; *Kumra, pethá, bhúttuá*, Hind.; *Khoolen, golkadu*,; Bomb.; *Kumbuli*, Tam.; *Budidi gummadi*, Tel.; *Kushmánda, and kurkarú*, Sans.; *Majdabah*, Arabic and Persian.

A climbing plant, cultivated all over India, frequently upon the roofs of huts. Supposed to be originally a native of Japan and Java.

This requires to be carefully distinguished from *Cucurbita Pepo, DC.*, but it may be known by the fruit being 1 to 1½ feet long, cylindric, without ribs, hairy when young, and bright green, ultimately becoming smooth and covered with a bluish white, waxy bloom; flesh white. It is used in the following ways: (*a*) as a vegetable, (*b*) as a curry, and (*c*) as a sweetmeat called *heshmi*.

(2) *Cucumis Melo*, (*Linn.*); CUCURBITACEÆ. — The Sweet Melon.

Vern. *Kharbúja, khurbúj or kharbuza*, Hind.; *Kharmuj*, Beng.; *Kharabúja, chibúda*, Bomb.; *Gádhro*, Sind.; *Vellari-verai*, Tam.; *Mulampandu*, Tel.; *Re-mé*, Naga.

Native of North-West India, Beluchistan, and perhaps West tropical Africa; it includes numerous varieties, which present differences both in shape and use of the fruit. Extensively cultivated in the North-West Provinces, in the sandy basins of the rivers.

From an agricultural point of view this is the most important species of the family. It is extensively cultivated on the sandy banks of rivers. Messrs. Duthie and Fuller say:—"Where the river deposit is of richer quality, and contains a mixture of organic matter, a much less amount of manure is required, and it is reported that occasionally manure is altogether dispensed with. The melon beds commence fruiting in April and continue yielding until they are overwhelmed by the rise of the rivers in June." In Manipur it is cultivated by the Nagas, and is of a spherical form with ten segments.

The flesh of the fruit is usually sweetish and pleasant, and is eaten by Europeans as well as by natives.

(3) *C. Melo*, (*Linn.*) *var.*, *Momordica*, (*sp. Roxb.*).

Vern. *Phuti*, Beng.; *Phunttúti, kachra* (unripe), Hind.; *Kakarikai*, Tam.; *Pedda-kai, pedda dosray*, Tel.

There are two varieties, one appearing in the rains and the other in the hot season.

This is one of the more marked varieties of *C. Melo*, differing chiefly in the form and nature of the fruit, which is cylindrical, quite smooth, 1 to 2 feet long, 3 to 6 inches diameter. When ripe it bursts spontaneously, and has seeds rather smaller than those of the common melon. (*Duthie and Fuller.*) "The fruit is much eaten both by natives and Europeans. When young they are a good substitute for the common cucumber, and when ripe (after bursting spontaneously) with the addition of a little sugar they are little inferior to the melon, and reckoned very wholesome." (*Roxb. Fl. Ind.*)

(4) *C. Melo*, (*Linn.*), *var. utilissimus* (*sp. Roxb.*).

Vern. *Kakri, kakri reti*, Hind.; *Kán kur*, Beng.; *Dosray*, Tel.; *Kákadi*, Bomb.

Cultivated in Upper Bengal, the North-West Provinces and Panjáb, during the hot weather and the rains. "The fruit varies from short oval or cylindrical to elongate, and is either straight or curved like some varieties of the cucumber. It varies in colour from dark

green to nearly white, usually changing to a bright orange colour when ripe." (*Duthie and Fuller.*)

Kakri is an important article of food with the poorer classes during the hot-weather months.

(5) *C. sativus*, (*Linn.*)—The Cucumber.

Vern. *Khira*, Hind.; *Sasa*, Beng.; *Kákadi*, *khira*, Bomb.; *Sukasa*, Sans.; *Muluvelari*, Tam.; *Dorgakaia*, Tel.; *Khyar*, Pers.

A native of Northern India, but by some authors supposed to have been cultivated in Egypt in the time of Moses. It forms an important article of the food of the people of India.

"There are two forms of this plant—one a creeping plant cultivated in the fields during the hot season, and the other a climber cultivated in homesteads in the rains." (*Amsterd. Exhib. Cat.*) The hot-weather kind has small egg-shaped fruits, and is sown in February and March in any soil, but preferably in a rich one, in drills. The rainy season crop yields much larger fruits, some a dark-green and others creamy-white. These when full-grown change their colour to a rusty brown. Another variety, *C. Hardwickii*, (*Royel*), grows wild in the Himalaya, and is called *air alu* in Kumaon and *pahari indrayan* in the tracts bordering the foot of those mountains. (*Duthie and Fuller.*)

The rainy season forms are the most common, and are universally eaten by natives of all classes as well as by Europeans. When gathered in a young state, they are known as *gherkins*; in this condition they are pickled.

(6) *Cucurbita maxima*, (*Duchesne*); CUCURBITACEÆ — The Gourd or Squash Gourd.

Vern. *Kadu*, Hind.; *Pushini-kaia*, Tam.; *Gummaḍḍikaia*, Tel.; *Shawepha-yung*, Burm.

Cultivated all over India for its fruit.

This plant produces the largest known fruit, some weighing as much as 240lb, and measuring nearly 8 feet in circumference. The fruit is wholesome, and when young is used as a vegetable.

This gourd is sweetish and yellow. When mature it will keep for many months if hung up in an airy place. It is largely used by natives of all classes in curry. It should be observed that both this and the fruit of *Lagenaria vulgaris* are in English called "gourds."

(7) *C. moschata*, (*Duchesne*)—The Musk Melon or Melon Pumpkin.

Vern. *Kharbúj*, *sitaghal*, *saphari*, *kumra*, *kaddú*, *mithakaddú*, N.-W. P.

This includes some of the forms of squash, pumpkin, and vegetable-marrow. The true vegetable-marrow does not seem to be cultivated in India to any extent. *C. moschata* is the species of *Cucurbita* most frequently cultivated. It has erroneously been called *C. maxima* by many writers. The marbled leaves with white blotches, the angular

peduncle of the female flower, and the short calyx tube, ending in leaf-like sepals, are characters which at once separate this species from all its allies.

(8) *C. Pepo*, (*DC.*)—the European Pumpkin or True Vegetable Marrow.

Cultivated for its fruit in European vegetable gardens. This plant is most probably of American origin.

(9) *Dolichos biflorus*, (*Linn.*) and *D. Lablab*, (*Linn.*) have already been referred to under pulses. The young pods are extensively eaten as vegetables.

(10) *Hibiscus esculentus*, (*Linn.*) — The Edible Hibiscus; Ochro of the West Indies; Gombo, Fr.

Vern. *Bhindi*, *ranturi*, Hind.; *Dhénras*, Beng.; *Vhendi*, (or *bhendi*), *vendaik-kay*, Tam.; *Venda-kaya*, Tel.; *Bamya*, Arab., Pers.

A herbaceous, annual bush, naturalised in all tropical countries; only met with in a cultivated state. Probably a native of Africa. Abul-Abas-Elnabati describes the *bamyah* as cultivated in Egypt in 1216, long before the discovery of America.

The unripe fruit is a favourite vegetable and medicine. When young and tender, the fruits, being very mucilaginous, are commonly eaten as a vegetable, and are used to flavour soup. The natives eat it when mature, and chiefly in curries.

(11) *Lagenaria vulgaris*, (*Seringe*); CUCURBITACEÆ. — The Gourd or Calabash and the Bottle Gourd.

Vern. *Kaddú*, *lauki*, *al-kaddú tumba*, *túmbe*, *kashiphal*, *gol-kaddú kabuli*, also *tumri* (a small variety), Hind.; *Kodú*, *lau*, Beng.; *Kaddú*, *kabuli*, *lauki*, *tumba*, Pb.; *Soriai-kai*, Tam.; *Sorakaya*, *kundanuga*, Tel.; *Me-kuri*, Naga; *Ulava*, Sans.

This climbing plant is found wild in India, the Moluccas, and Abyssinia. At present it is cultivated in the warm parts of America, Australia, and China, and extensively so in many places in India, especially in the Upper Provinces and on the lower hills. It is frequent in Assam, especially in the Naga Hills. It thrives in any land, but best in richly-manured, sandy soil. The sowing takes place from February to July, and the gourd is ready for use in three months' time.

This gourd is eaten by Europeans and natives. By the former it is boiled when young and used as vegetable-marrow; by the latter it is sliced and cooked in curry. The young shoots and leaves are also eaten. Its fruit assumes almost any form. It is sometimes as much as 6 feet long, and is frequently shaped like a bottle; specially prepared ones are in fact used as bottles. The Nagas hollow them out into water and *su*—beer bottles. The small variety called *tumri* is used for making the stringed instrument called the *sitar*.

(12) *Luffa acutangula, (Roxb.)*; CUCURBITACEÆ.

Vern. *Torúi, jinga, turi,* Hind.; *Káli-taroi* or *tori satpatiya,* Bundelkhand; *Jhinga, jinga,* Beng.; *Pikunkai,* Tam.; *Burkai, Jira-kaya,* Tel.; *Pichengga,* Mal.; *Turai, sirola,* Bomb.; *Turi,* Sind.

Met with in the North-West Himalaya to Sikkim, Assam, East Bengal, and Ceylon. Cultivated in most parts of India, where it is also indigenous.

This plant is regularly cultivated every year in the plains. The sowing takes place from March to the beginning of June, in lines at short distances apart. The plant continues to bear for a couple of months, commencing three months after sowing.

This elegant obovate fruit with its angled or winged surface is one of the most abundant vegetables offered for sale in the Indian bazars. Natives value it highly and eat it in curry. Roxburgh says that the half-grown fruits, when boiled and dressed with butter, pepper, and salt, are little inferior to green peas. Cut in round slices and made into *fricasse,* it is an excellent dish of vegetables.

(13) *Luffa ægyptiaca, (Mill., ex Hook. f.)*

Vern. *Dhundul,* Beng.; *Taroi, ghiya-taroi, turai, dhandhal,* Kumaon; *Nuni-bird,* Tel.; *Ghosali, parosi,* Bomb.

A native of India, cultivated or naturalised in most of the hot countries of the world. In India it is common everywhere, and is often cultivated especially in the plains. The seeds are sown from March to June, and the fruit ripens from June to October.

The fruit is eaten by the natives in curry; it is generally smaller than the preceding. It is often seen growing over native huts.

(14) *Musa paradisiaca, (Linn.)*.—The Plantain; and *M. sapientum, (Linn.)*—The Banana; SCITAMINEÆ.

Vern. *Kala,* Beng.; *Kela,* Hind., Bomb.; *Kadali,* Sans.; *Vazhaip pazham,* Tam.

A perennial herb of 8 to 15 feet in height, extensively cultivated throughout India, nearer the coast tracts than inland. The fruit is a common article of diet among both Europeans and natives, especially the latter. The various forms of the plantain more properly should be classed as fruits than as vegetables. One form—the *kanch kolla* of Bengal—is, however, never allowed to ripen, the large fruits being cut up and eaten as a vegetable in curries. When the lower half of the flowering spike has formed its young fruits, the extremity is removed, from an idea that the fruit matures better, but at the same time the young flowers are regularly eaten as a vegetable.

(15) *Raphanus sativus, (Linn.)*; CRUCIFERÆ.—The Radish.

Vern. *Mulá,* Beng.; *Muli,* Hind.; *Múlaka,* Sans.

An annual herb of the cabbage family, unknown in its wild state, but cultivated here and there throughout the plains of India and up to 16,000 feet in altitude on the Himalaya. It is a cold-weather crop,

but grows nearly all the year round in the hills. There are several varieties met with in India; the large, long, pale-pink; the small, longish, pale-pink; and the small round, bright red. The last is raised generally in gardens from selected or European imported seed.

The two first are the more common, and are universally eaten by all classes of natives, either in their natural state or cooked in curries; the second, when young and tender; and the last by Europeans only. The plump and still young and green pods are used for pickling, alone or with other vegetables, and are regarded as a fair substitute for capers.

Variety *caudatus*—known in the vernacular as *mugra*.

This extraordinary form is cultivated in the Panjáb and in Northern and Western India on account of its pods, which are used as a vegetable. The younger Linnæus is said to have obtained this plant from Java, but the vernacular name given by him, "*Mongri*," corresponds with the Hindustani name "*Mugra*," and this again with the other Indian names for the radish proper. Mr. Baden-Powell in his *Panjáb Products*, page 260, states that the seeds sell in the Panjáb for Rs. 2 a seer—a price which shows how highly the plant is prized. He adds:—"The natives have an idea that this plant is only *R. sativus* subjected to a peculiar treatment, viz., by being taken up and having all its roots cut close round and then replanted." There seems little doubt of the origin of this plant from the same stock as the ordinary Indian radish; and indeed the habit of removing the tap root as a vegetable and replanting the stock for the production of seed is quite common with the poorer classes. The rat-tail-like pods of *caudatus* are eaten either boiled or pickled.

(16) *Momordica Charantia*, (*Linn.*); CUCURBITACEÆ.

Vern. *Karela, kareli, karola*, Hind.; *Karalá*, Beng.; *Susuvi*, Sans.

Cultivated all over India on the plains. There are practically two kinds—one grown in the rainy season, which has a smaller fruit and is more esteemed; the other, grown in hot weather, is more bitter. It is sown on rich soil in February and March, and the fruit ripens in April.

It is of a bright orange-yellow colour, 1 to 6 inches long; is eaten cooked in curries, or sliced and fried; but a special treatment in hot water is necessary previous to cooking to take away a portion of the bitterness. When sliced and dried, it remains good for many months.

(17) *M. dioica*, (*Roxb.*).

Vern. *Gol kándra*, N.-W. P.; *Dhar karela, kirara*, Pb. *Kurtoli*, Bomb.; *Palúpaghel-kalung*, Tam.; *Puagakara* (male plants), *Agakara* (female plants), Tel.

Found throughout India at different altitudes, up to 5,000 feet, generally in thickets, on banks of rivers, &c.

Flowers during the wet and cold seasons, and produces a fruit which, when green and tender, is eaten in curries by the natives. The tuberous roots of the female plant are also eaten, and they are larger than those of the male.

(18) *Moringa pterygosperma*, (*Gærtn.*)—The Horse Radish or Ben-Nut Tree.

Vern. *Soanjna, sanjna*, Hind.; *Sajna, sujana*, Beng.; *Segata, segava*, Bomb.; *Morunga*, Tam.; *Daintha*, Burm.

Wild in the sub-Himalayan tract from the Chenab to Oudh: commonly cultivated in India and Burma. It flowers in February, and fruits in March and April. The fruit is a long whip-like bean. In Bengal and Southern India especially there is scarcely any native homestead without its *sajna* or *morunga* tree. The leaves, the flowers, and the beans, are very commonly eaten in curries by natives of all classes. After the beans are taken off the tree, the branches are universally lopped off, and the leaves are then given to cattle as fodder. The root has a strong flavour of horse radish, and besides being used in medicine as a vesicant, is said to be eaten by the natives.

(19) *Trichosanthes anguina*, (*Linn.*); CUCURBITACEÆ — The Snake Gourd.

Vern.—*Chachinga*, Hind.; *Chichingá*, Beng.; *Chichinda*, Sans.; *Jalor-tor pandol, chinchinda*, Pb.; *Parula, pada-vala*, Bomb.

A native either of India or the Indian Archipelago, believed by Mr. C. B. Clarke to be a cultivated state of *T. cucumerina*.

Sown in April and May throughout the plains and grown as a rainy season crop. Its pendulous, cylindrical, snake-like gourd, three feet long, is eaten cooked in curry, and is a common article of food.

(20) *Trichosanthes cucumerina*, (*Linn.*).

Vern. *Ban-patol*, Beng.; *Jangli-chachinda*, Hind.; *Gwal kakri, mohakri*, Pb.; *Pipudel, pudel*, Tam.; *Chyudpotta*, Tel.

A pretty extensive climbing annual, found throughout India.

The fruit is oblong, 1 to 4 inches long, striated, with white and green when unripe, becoming red when ripe. It contains a red pulp, which is eaten unripe, generally in curries, but is very bitter.

(21) *T. dioica*, (*Roxb.*).

Vern. *Patol*, Beng.; *Palbal*, or *palwal*, Hind.; *Putulika, patola*, Sans.

Cultivated during the rains throughout the plains of Northern India, from the Panjáb to Bengal proper and Assam.

The fruit is oblong, smooth, about 2 to 4 inches long, green when unripe, and yellow or orange when ripe. It is eaten when unripe and always cooked, and is a much esteemed vegetable. Natives generally make it into curry.

(22) *T. palmata*, (*Roxb.*) has a red fruit, very similar to the last-mentioned species. It is eaten when produced by cultivation, and is known in upper India by the name *indráyan*.

DIVISION 2ND.—MINOR VEGETABLES = GREENS OR SPINACH—*Ság or Sák.*

One might almost say that an infinite series of minor vegetables might be enumerated of which samples were

shown at the Exhibition. The aboriginal tribes, such as the Santals, eat almost anything, and a very large series of cultivated and wild plants enter more or less into the diet of even the more prosperous people of the plains. The list of Indian greens or *sags* is very extensive, and some of the examples are exceedingly curious. In every bazar in Bengal, for example, a considerable number of the following are daily offered for sale, especially those marked* :—

(1) **Amarantus gangeticus*, (*Linn.*)—The *lál-ság*.—This is perhaps the most important *ság* in India.

(2) **A. oleraceus*, (*Linn.*)—The *nátiya ság*.—This seems in South India to take the place of the preceding in Bengal.

(3) *A. spinosus*, (*Linn.*)—The *kánta-natiya*.—This makes a good spinach, but the spines must first be removed.

(4) *A. tristis*, (*Linn.*)—The *mekanada* (Sans.), or the *sirru-kirai* (Tam.).—This is cultivated more or less over India, and is highly spoken of as a pot-herb.

(5) **Basella alba*, (*Linn.*)—The *poi*.—The succulent leaves and stems of this climber are extensively eaten as a pot-herb.

(6) **Beta vulgaris*, (*Moq.*)—The *palak* or beet-root.—The stems and leaves are largely eaten.

(7) *Börhaavia diffusa*, (*Linn.*)—The *gadha-purna* (Beng.) or *smadika* (Sans.) is cultivated by the Santals as a pot-herb.

(8) *Brassica campestris*, (*Linn.*)—The Rape, and also *B. juncea* (*H. f. & T.*) and *B. nigra* (*Koch*), the Mustard, are eaten as pot-herbs.

(9) **Corchorus olitorius*, (*Linn.*).—The young shoots and leaves of the jute plant are regularly eaten as a pot-herb.

(10) **Ipomœa aquatica*, (*Forsk.*)—The *kalmi-sak*.—This floating Ipomœa is extensively eaten in Bengal.

(11) *Lysimachia candida*, (*Lindl.*).—One of the most remarkable examples of pot-herbs on record. Until Dr. Watt discovered that the Manipuris were regularly in the habit of eating this species as a green vegetable (especially along with fish), no primulaceous plant was known to be edible.

(12) *Marsilea quadrifolia*, (*Linn.*)—The *sushni-sák*.—This sub-aquatic cryptogam (closely allied to the ferns) is regularly eaten as a pot herb in Bengal.

(13) *Oxalis corniculata*, (*Linn.*)—The Amrul.

(14) **Portulaca oleracea*, (*Linn.*) and *P. quadrifida*, (*Linn.*)—The *núniya*.—This is regularly sold in the Calcutta market and in most bazars in Bengal.

(15) *Rumex*.—Several species of sorrel are eaten as pot-herbs.

(16) *Sesbania grandiflora*, (*Pers.*)—The *basna*, *buka* or *agati*.—The large papilionaceous flowers and also the leaves of this elegant tree are eaten as a pot-herb.

(17) *Tamarindus indica*, (*Linn.*)—the Tamarind or *amli*.—The leaves are made into curries by the poorer classes.

The above enumeration is by no means exhaustive. Many more might be added to complete even a Bengal list, and each province has peculiar pot-herbs of its own. Enough has been said, however, to indicate the leading features of the display of vegetables and pot-herbs shown at the Exhibition; they will be found described at greater detail in the official catalogue. As nearly the whole of the pot-herbs in the above list are wild plants, which require no cultivation, they illustrate one of the most striking features of India, for in few countries in the world are so many edible products to be procured for the trouble of collecting—edible products, too, which enter largely into the dietary of the mass of the people.

Having now briefly indicated the main features of the primary food-stuffs of the people of India, it is only necessary to conclude the account of this section of the Court by enumerating by name the exhibits shown under the remaining classes.

CLASS V.—TUBERS, BULBS, ROOTS, AND STEMS.

These may be briefly defined as more or less solid underground structures, containing a large amount of starch.

(1) *Allium*, various species.—The Onion, Garlic, Shallot.
(2) *Alocasia indica*, (*Schott*).—The *Mánkachú*.
(3) *Amorphophallus campanulatus*, (*Blume*).—The *Ol*.
(4) *Arracacia esculenta*, (*DC.*).—The Peruvian Carrot.
(5) *Beta vulgaris*, (*Moq.*).—The Beetroot.
(6) *Brassica Rapa*, (*Linn.*).—The Turnip.
(7) *Colocasia antiquorum*, (*Schott*).—The *Kachu*.
(8) *Costus speciosus*, (*Sm.*).—The *Keú*.
(9) *Curcuma angustifolia*, (*Roxb.*).—The Wild Arrowroot.
(10) *Dioscorea*, various species.—The Yam.
(11) *Helianthus tuberosus*, (*Linn.*).—The Jerusalem Artichoke.
(12) *Ipomœa Batatas*, (*Lamk.*).—The Sweet Potato.
(13) *Manihot utilissima*, (*Pohl.*).—The Tapioca.
(14) *Maranta arundinacea*, (*Linn.*).—The Arrowroot.
(15) *Raphanus sativus*, (*Linn.*).—The Radish.
(16) *Solanum tuberosum*, (*Linn.*).—The Potato.
(17) *Tacca pinnatifida*, (*Forsk.*).—The South Sea Arrowroot.

The objects thrown into this class are very closely allied to those included under Class VI. The distinction chiefly consists in the fact that tubers are eaten as vegetables while the substances referred to the succeeding class are used in the preparation of starch and sugar, and toddy, beer, and spirits.

CLASS VI.—STARCHES, SUGARS, AND SUBSTANCES FROM WHICH WINES, SPIRITS, OR TODDY ARE PREPARED.

Of the articles enumerated in this list (excluding rice and wheat, which have already been dealt with), sugar and toddy are the most important. From the latter sugar is largely prepared, so that the two are intimately related. Sugar is in fact obtained from two forms of the so-called sugar-cane and from four species of palms, viz. *Phœnix sylvestris*, the Indian Date-palm (or toddy palm of Bengal); *Borassus flabelliformis*, the Palmyra or toddy palm of South India, Bombay, and Burma; *Cocos nucifera*, the Cocoa-nut palm, and *Caryota urens*, the Sago palm. The bulk of the Indian sugar is obtained, however, from *Saccharum officinarum* and experimentally from *Sorghum saccharatum*. The interest in beet-sugar, so far as India is concerned, consists entirely in the fact that it has affected, and must continue to affect, materially our cane sugar industry. France, Austria, and Germany, in order to foster and develop the beet-sugar trade, have instituted a protective system of giving bounties to home refiners, and have at the same time levied upon all foreign sugars heavy importation duties. This system has naturally led to a vast extension of beet cultivation and of refining operations. Over-production has, however, caused ruinous reduction in prices of sugar; cane sugar falling in exact ratio with beet. This has naturally caused the bankruptcy of numbers of beet-growers and of some of the largest refiners, a financial crisis having occurred in Vienna in consequence of these failures. The area under beet may now undergo some contraction, prices improving in consequence; but unless this actually takes place a prolonged low price like what now prevails cannot help proving disastrous to the cane sugar industries of the East and West Indies. Already the beet sugar trade has materially affected the cane sugar of India, and the extension of sugar-cane cultivation in Fiji, Queensland, and other places is not calculated to lessen the danger.

In Mr. Giffen's report to the Board of Trade (London, 1884) will be found much interesting and valuable information, which cannot be too carefully studied by our cane sugar producers: "The total sugar crop of the world at the present time may be put in round figures at 6,000,000 tons. The known increase in 30 years has been very nearly half that amount. As bearing on recent controversies, it may also be of interest to point out that since the date of giving my evidence British cane sugar appears to have increased quite as much in proportion as beet root sugar. In 1877-79 the production of British cane sugar was 403,000 tons per annum, and its proportion to the total 12 per cent. In the following three years the production was 419,000 tons per annum, and its proportion to the total was still 12 per cent. Possibly later figures may show a different result; but if there has been any change, it must have been quite recent. For about 15 years it will be seen the proportion of British cane sugar in the total production has been the same as it is now, viz. 12 per cent. The remarkable growth of beet root sugar in recent years would thus seem to have been mainly in competition with foreign cane sugar. Though the production of that sugar in amount has steadily increased, its proportion in the whole has fallen from 60 per cent. 20 years ago to 40 per cent. at the present time. British cane sugar, on the contrary, has not only increased in amount, but has increased so rapidly, for 15 years at least, as to maintain its former proportion to the total production. The production of beet sugar being about 2,000,000 tons, the proportion of beet to cane in the sugar production of the world is thus about one-third."

In his Review of Sea-borne Foreign Trade of British India for 1884, Mr. J. E. O'Conor has given an interesting *résumé* of the present position of the Indian sugar trade. In March 1882 the import duty of 5 per cent. on sugar was "taken off, with other import duties, and the remission was vehemently opposed by the representative, in the Legislative Council, of the mercantile community of Calcutta, on the ground that it would assuredly bring about the extinction of the sugar industry in Bengal. The prediction so far has been singularly falsified, and if the trade should collapse now, after having had for two full years since the abolition of the duty a far more flourishing existence than it had ever previously known, its decay must be attributed

to other and wholly different causes than the removal of a protective duty."

The value of sugar EXPORTED to foreign countries during the last five years was as follows:—

	Rs.
1879-80	20,58,713
1880-81	31,17,508
1881-82	59,82,317
1882-83	80,87,759
1883-84	94,32,185

The value IMPORTED during the same years was—

	Rs.
1879-80	1,06,87,881
1880-81	1,61,11,572
1881-82	1,24,37,580
1882-83	1,08,69,610
1883-84	1,14,83,701

The larger portion of the exported sugar consists of molasses and jaggery or goor, while almost the whole of the imports are given under the heading "Refined sugar."

The following are the principal sugar and starch-yielding plants met with in India:—

(1) *Agave americana*, (*Linn.*).—The American Aloe: yields spirit and brandy.

(2) *Alhagi maurorum*, (*Desv.*).—The Hebrew Manna.

(3) *Arenga saccharifera*, (*Labill*).—The Sago Palm of the Malaya.

(4) *Bassia latifolia*, (*Roxb.*).—The *Mahúa*; yields sugar and spirits.

(5) *Beta vulgaris*, (*Moq.*).—Beet sugar.

(6) *Borassus flabelliformis*, (*Linn.*).—The Palmyra palm; wine and sugar.

(7) *Calotropis gigantea*, (*R. Br.*).—Mr. Lisboa (*Useful. Pl. of Bombay*) says that "the tribes of the Western Ghâts make an intoxicating drink called *barr* from the milk sap of the *mudar* or *ak*."

(8) *Canna indica*, (*Linn.*).—The Indian Shot.

(9) *Caryota urens*, (*Willd.*).—A palm from which part of the sago of commerce is obtained.

(10) *Cocos nucifera*, (*Linn.*).—The Cocoa-nut palm; yields palm wine.

(11) *Eugenia Jambolana*, (*Lam.*).—In Goa a wine very faintly resembling port is prepared from the fruit of this tree.

(12) *Manihot utilissima*, (*Pohl.*).—The Tapioca.

(13) *Maranta arundinacea*, (*Linn.*).—Arrowroot.
(14) *Melia Azadirachta*, (*Linn.*).—Yields toddy.
(15) *Nelumbium speciosum*, (*Willd.*).—The Sacred Lotus or *Padma*; the starchy tubers are eaten.
(16) *Nymphœa*.—Various species of the water lily; yield starchy rhizomes.
(17) *Oryza sativa*, (*Linn.*).—Common rice is largely used as a starch, and also in the distillation of spirit.
(18) *Phœnix sylvestris*, (*Roxb.*).—The Indian Date-palm. This is one of the chief sources of palm sugar and of toddy.
(19) *Saccharum officinarum*, (*Linn.*). — The common Sugar-cane.
(20) *Sorghum saccharatum*, (*Pers.*). — The Chinese Sugar-cane.
(21) *Triticum sativum*, (*Linn.*).—Common Wheat, used in distillation.
(22) *Vitis vinifera*.—The Vine.

There are many other economic products which might be mentioned under this class, such, for example, as honey, but the above are those of commercial importance, and the reader is referred to the catalogue for further information regarding them.

ADJUNCTS TO BEVERAGES AND TO DISTILLATION.

A large number of substances are used in India to take the place of the hops of Europe. These are sometimes used, like hops, as simple bitters, or are added to the liquor because it has been ascertained that a larger quantity of alcohol is produced from a given weight of grain when an astringent seed or bark is present during fermentation. At other times adjuncts are added to drug the liquor, and for this purpose some of the most poisonous narcotics are used. It seems probable that the sacred *Soma* was of this nature, rendering a beverage more pleasant and intoxicating. The following are a few of the important bitters and narcotics used in India in the preparation of beverages:—*Anamirta Cocculus*, (fruits); *Acacia arabica*, *A. ferruginea*, and *A. leucophlœa* (the bark); *Cannabis sativa*—Indian hemp used as *ganja*, *churras*, *bang*, or *majum*; a species of *Cnestis* employed by the inhabitants of Manipur (the stem); a fungus found on the inflorescence of a grass (Rhyncospora aurea) used by the Khasias; *Datura fastuosa* (the seeds burned on charcoal with an empty vessel inverted to catch the smoke, when full

the beverage is suddenly thrown into the smoke and is thereby made intoxicating); *Ligustrum robustum* the bark, accelerates fermentation.

This list is of course very incomplete, but it may be remarked that no subject seems deserving of more attention than this, both on account of its economic interest and because of the fact that adjuncts to beverages are extensively used for criminal purposes. We know very little about the plants of this class used by the aboriginal tribes of India. The Santals, for example, are said to use *Ruellia suffruticosa*, (Roxb.) (the *chaulia*) when they wish to prepare a pleasant beverage from rice, but add *Clerodendron serratum*, (*Spreng.*) (the *Saram lutur*) to make this intoxicating.

CLASS VII.—NUTS.

These are dry seeds or fruits, eaten as luxuries, either fresh or after being roasted. The following are the more important examples:—

(1) *Æsculus indica*, (*Colebr.*).—The Indian Horse Chestnut.

(2) *Aleurites moluccana*, (*Willd.*).—The Belgaum or Indian Walnut.

(3) *Anacardium occidentale*, (*Linn.*).—The Cashew-nut.

(4) *Arachis hypogœa*, (*Linn.*).—The Ground-nut or Earthnut.

(5) *Areca Catechu*, (*Linn.*).—Betel-nut.

(6) *Artocarpus integrifolia*, (*Linn.*).—The dry seeds of the Jack Fruit.

(7) *Buchanania latifolia*, (*Roxb.*).—The *Chirauli*, a common substitute for almonds.

(8) *Corylus Colurna*, (*Linn.*).—The Indian Hazel-nut.

(9) *Cucumis*.—The seeds of several forms of the melon are eaten as nuts.

(10) *Euryale ferox*, (*Salisb.*).—The *Makhana*; the black seeds of this water-lily are eaten as nuts.

(11) *Juglans regia*, (*Linn.*).—The Walnut.

(12) *Nelumbium speciosum*, (*Willd.*).—The Lotus.

(13) *Pinus Gerardiana*, (*Willd.*).—The Neosa or Edible Pine. The nuts are largely eaten by the hill tribes, especially in Afghanistan and Kafiristan.

(14) *Pistacia vera*, (*Linn.*)—The Pistachio-nut.

(15) *Prunus Amygdalus*, (*Baillon*).—The Almond.

(16) *Semecarpus Anacardium*, (*Linn.*).—The Marking-nut.

(17) *Theobroma Cacao*, (*Linn.*).—The Cacao-bean, from which chocolate is made.

(18) *Terminalia Catappa*, (*Linn.*).—The Country or Wild Almond.

(19) *Trapa bispinosa*, (*Roxb.*).—The Singhara-nut.

CLASS VIII.—FRUITS.

A large and most attractive collection of models of fruits (132 in number) was prepared by the artist attached to the Saharanpur Botanic Gardens under the supervision of Mr. J. F. Duthie and by Jadu Nath Paul, the modeller employed by the Revenue and Agricultural Department, Government of India. These were shown on two specially prepared stands, and as these fruits were all natural size and carefully prepared and coloured, they constituted an attractive display.

Trade Returns.

The foreign trade in fruits is comparatively small, the Cocoa-nut being the most important. The exports during the past five years were as follows:—

	*Rs.
1879-80	6,27,294
1880-81	8,37,438
1881-82	4,25,029
1882-83	3,16,280
1883-84	3,93,348

From these figures it would appear that the trade is declining. Of the fresh fruits exported for the last year, the following analysis of the figures given above will be found instructive:—

Rs. 9,464 entire cocoanuts; Rs. 34,375 dried cocoanut kernels; Rs. 21,230 other fruits. Of this amount, about Rs. 15,000 worth, chiefly cocoanut kernels, were exported to Europe, the rest going to Arabia, Egypt, Turkey, Persia, Ceylon, the Straits.

The following enumeration contains the principal examples of which models were shown. The mark * denotes fruits which belong to the tropics, and ** those of the warm-temperate regions, fruiting in India about the close of the cold season. The remainder are those which require a temperate climate and are met with on the hills, the fruits being brought to the plains. The indication † is placed in front of the names of fruits which are not indigenous to India:—

*(1) *Achras Sapota*, (*Linn.*).—The Sapodilla Plum or Sapota—an American fruit—; not very much esteemed.

* These values include those of a small quantity of vegetables for which separate details are not given in the Trade Returns.

*(2) *Ægle Marmelos*, (*Correa.*).—The Bael fruit.

†*(3) *Ananas sativa*, (*Linn.*).—The Pine-apple—an American introduction, and probably indigenous to Brazil.

†*(3) *Anona reticulata*, (*Linn.*).—Bullock's heart.

†*(4) *Anona squamosa*, (*Linn.*).—The Custard Apple or Sweet Sop of the West Indies. This and the preceding are American fruits, introduced at an early date.

*(5) *Artocarpus integrifolia*, (*Linn.*).—The Jack-fruit.

†*(6) *Artocarpas incisa*, (*Linn.*).—The Bread-fruit. A native of Java, Amboyna, and the neighbouring islands.

*(7) *Artocarpus Lakoocha*, (*Roxb.*).—The *Lakúcha*.

*(8) *Averrhoa Carambola*, (*Linn.*).—The *Karmal* fruit.

*(9) *Bassia latifolia*, (*Roxb.*)—The *Mahúa*.

*(10) *Borassus flabelliformis*, (*Linn.*).—The Palmyra palm.

*(11) *Capparis spinosa*, (*Linn.*).—The Caper Berry.

†*(12) *Carica Papaya*, (*L.*).—The Papaw or Papaya fruit. An American introduction; extensively grown in Bengal.

*(13) *Carissa Carandas*, (*Linn.*).—The *Karenja* fruit.

*(14) *Citrullus vulgaris*, (*Schrad.*).—The Water-melon. There are several distinct varieties of this fruit met with in India: a native of Southern Asia.

†**(15) *Citrus Aurantium*, (*Linn.*).—The Orange proper.

(*b*) Variety *Bigaradia*.—The Seville Orange.

(*c*) Variety *Bergamia*.—The Bergamat. A native of China and Cochin China.

†*(16) *Citrus decumana*, (*Willd.*). — The Shaddock or Pomelo. There are three distinct forms of this fruit. Probably a native of Java.

**(17) *Citrus medica*, (*Linn.*).—The Citron, Lemon, Lime. Indigenous to India, and introduced from India into China.

(18) *Cydonia vulgaris*, (*Tourn.*).—The Quince.

*(19) *Dillenia indica*, (*Linn.*).—The *Cháltá*.

*(20) *Durio Zibethinus*, (*DC.*).—The Durian.

*(21) *Eriobotrya japonica*, (*Lindl.*).—The Loquat.

*(22) *Eugenia Jambolana*, (*Lam.*).—The *Jam*.

*(23) *Eugenia Jambos*, (*Linn.*).—Rose-apple.

†*(24) *Ficus Carica*, (*Linn.*).—The Fig. Probably a native of Afghanistan and Persia, extending to Europe and introduced into India.

†**(25) *Fragaria vesca*, (*Linn.*).—The Strawberry. This is a native of temperate regions, and is abundant on the Himálaya; but the cultivated form is purely an introduction from Europe, the plant never having been cultivated by the natives from an indigenous stock.

*(26) *Garcinia Mangostana*, (*Linn.*).—The Mangosteen. A native of the Straits: the fruit is sometimes brought into India proper.

*(27) *Hibiscus Sabdariffa*, (*Linn.*).—The Rozelle fruit.

†**(28) *Lycopersicum esculentum*, (*Miller*).—The Love-apple or Tomato. A native of Peru.

*(29) *Mangifera indica*, (*Linn.*).—The Mango. Indigenous to the eastern side of India: only naturalized in the west. Introduced from India into the West Indies.

*(30) *Morus indica*, (*Linn.*).—The Mulberry or *Tút.*

*(31) *Musa paradisiaca*, (*Linn.*).— } The Banana and Plan-
Musa sapientum, (*Linn.*).— } tain.

It seems probable that all the forms of this fruit have come from one species—a native of India and the Malaya.

†*(32) *Nephelium Litchi*, (*Camb.*). — The Litchi fruit; a native of the South of China and Siam: introduced into Bengal at the end of the 18th century.

†(33) *Olea europœa*, (*Linn.*).—The Olive.

†*(34) *Opuntia Dillenii*, (*Haw.*).—Prickly Pear: a native of America.

†*(35) *Phœnix dactylifera*, (*Linn.*).—The Date palm. This has existed from the Indus to Senegal from pre-historic times: introduced into India proper.

†*(36) *Phœnix sylvestris*, (*Roxb.*).—The Wild Date: most probably a native of India.

*(37) *Phyllanthus Emblica*, (*Linn.*).—Emblic Myrabolam.

†**(38) *Physalis peruviana*, (*Linn.*).—The Cape Gooseberry.

†(39) *Prunus armeniaca*, (*Linn.*).—The Apricot.

†(40) *Prunus Avium*, (*Linn.*).—Sweet Cherry.

†(41) *Prunus Cerasus*, (*Linn.*).—The Wild Cherry.

†(42) *Prunus communis*, (*Huds.*).—The Plum.

Var. b. Insititia—The Bokhara Plum.

†**(43) *Prunus persica*, (*Benth & Hook*).—The Peach.

†*(44) *Psidium Guyava*, (*Raddi.*).—The Guava—an introduction from America and the West Indies.

†(45) *Punica Granatum*, (*Linn.*).—The Pomegranate—a native of Persia, Afghanistan, and Beluchistan: introduced into India proper.

(46) *Ribes*.—It is a remarkable fact that while both the Gooseberry and the Black Currant are wild on the North-West Himálaya, these popular European fruits are never seen in cultivation as European introductions at hill stations, nor have the indigenous forms been

cultivated by the hill tribes. (Compare with similar fact under No. 25.)

†*(47) *Spondias dulcis*, (*Willd.*) — The Otaheite Apple is a native of the Society Islands and of Fiji.

(48) *Spondias mangifera*, (*Pers.*).—The Hog-plum.

*(49) *Tamarindus indica*, (*Linn.*).—The Tamarind.

(50) *Vitis vinifera*, (*Linn.*). — The Grape has its most easterly point of distribution in Afghanistan, where it seems to be indigenous.

*(51) *Zizyphus Jujuba*, (*Lamk.*). — The Jujube or Chinese date.

*(52) *Zizyphus vulgaris*, (*Lamk.*). — The Common Jujube; vulgarly known as the Indian plum.

To the above list of fruits might be added as many more which exist in a wild, or at most in but a semi-cultivated condition. A few have also been excluded from the present enumeration because of their having been already referred to under the head of vegetables.

The fruits of the East have unfortunately associated with them a fabulous idea of high merit. Few persons, however, who have resided for any length of time in India will be found to advocate their claim against those of the West. Indeed many of the Indian fruits which occupy an important place in public estimation are introductions, a good few coming from Europe, and China, and a large number from the West Indies and America. It is a remarkable fact that while the wild forms of many of the fruits of Europe are abundant as indigenous plants on the Himálaya, only a very few were cultivated before the arrival of the Europeans, and the gooseberry, the currant, and the bramble are still uncultivated.

The most characteristic modern fruits of India are the Mango, Guava, Litchi, Pineapple, and Plantain. The Mangosteen is common in the Straits, and is regarded as the most delicately flavoured fruit of the East.

CLASS IX.—CONDIMENTS AND SPICES.

(1) *Acacia Catechu*, (*Willd.*).—The *Kath*.

The value of Catechu exported from India for use in Europe as a dye and tan during 1883-84 and the preceding four years was as follows:—

	Rs.
1879-80	28,13,994
1880-81	42,66,415
1881-82	25,30,840
1882-83	30,52,434
1883-84	35,32,000

(2) *Allium.*—The Onion and the Garlic.

(3) *Amomum subulatum, (Roxb.).*—The Greater Cardamom or Grains of Paradise. This is one of the most important of Indian condiments. (For trade quotations, *see Elettaria*).

(4) *Apium graveolens, (Linn.).*—Celery. The seeds are used as a spice.

(5) *Areca Catechu, (Linn.).*—The Betel-nut or *Supári.*

			Imports. Value.	Exports. Value.
			Rs.	Rs.
1879-80	...	...	20,57,059	2,57,508
1880-81	...	...	23,29,395	96,930
1881-82	...	...	20,19,918	53,545
1882-83	...	...	21,68,061	71,199
1883-84	...	...	34,06,458	52,417

The imports are chiefly from Ceylon, the Straits, and Sumatra, and the exports to Zanzibar, Mauritius, and Mozambique. The imports from interprovincial coasting trade amounted in 1883-84 to Rs. 55,21,614, and the exports by land to Rs. 7,52,441.

(6) *Brassica.*—The seeds of the various forms of Mustard, Rape, and Cole seed are used as condiments. They are exported as oil-seeds, however, and not as condiments. For trade quotations see page 305.

(7) *Capsicum.*—Two or three species yield the various forms of Chillies, Red-pepper, or Cayenne-pepper.

(8) *Cinnamomum.*—Two or three species afford the various forms of Cinnamon of commerce. *C. zeylanicum (Breyn.)* or Ceylon Cinnamon is the True Cinnamon of commerce; *C. Tamala* yields part of the so-called *Cassia Lignea* or Indian Cinnamon. The exports of Cinnamon from India during the year 1883-84 were valued at Rs. 8,328, and the imports at Rs. 2,640.

(9) *Cocos nucifera, (Linn.).*—The Cocoa-nut. The albuminous layer from the interior of the shell is largely eaten as a condiment, and is made into preserves of various kinds (*see* under Fruits). In Europe it is chiefly used for the expression of oil.

(10) *Coriandrum sativum, (Linn.).*—The Coriander.

(11) *Cuminum Cyminum, (Linn.).*—The Cummin.

(12) *Curcuma longa, (Roxb.).*—Turmeric.

(13) *Elettaria Cardamomum, (Maton.).*—The Lesser Cardamom. This is the most valuable of all the Indian condiments. It is extensively used by the natives of India for flavouring purposes, and is also sometimes eaten in *pán.* In the trade returns this and *Amomum subulatum* are taken

collectively; for the past five years the EXPORTS were—1879-80, Rs. 6,34,794; 1880-81, Rs. 8,20,257; 1881-82, Rs. 6,36,315; 1882-83, Rs. 4,02,076; 1883-84, Rs. 5,68,334. Of the exports for the last mentioned year, the United Kingdom received Cardamoms to the value of Rs. 4,05,649.

(14) *Eruca sativa*, (*Lam.*).—Used in the same way as the forms of *Brassica*.

(15) *Fœniculum vulgare*, (*Gærtn.*).—The Fennel.

(16) *Humulus Lupulus*, (*Linn.*).—Hops. The cultivation of this plant is now being experimentally tried in Kashmir and Chumba, and bids well to succeed, if not ruined through becoming a State monopoly.

(17) *Mentha piperita*, (*Linn.*).—Peppermint.

(18) *Myristica moschata*, (*Willd.*).—The Nutmeg.

(19) *Nigella sativa*, (*Linn.*).—The Black Cumin seed or *Kálájirá*. Extensively cultivated, the seeds constituting a favourite spice with the natives of India.

(20) *Ocimum Basilicum*, (*Linn.*).—The Sweet Basil. The seeds and also the leaves are eaten as a cooling condiment.

(21) *Peucedanum graveolens*, (*Benth.*).—The Sowa. The seeds are eaten in curries.

(22) *Piper Betle*, (*Linn.*).—The Pán-leaf Pepper plant. The leaves of this plant, along with a little Catechu, Betel-nut, and lime, flavoured with spices, constitute the preparation known as *pán*. This is chewed by the natives of India as a mild stimulant, especially after meals. It colours the mouth and saliva a deep red colour. The trade in this leaf is entirely for home consumption.

(23) *Piper nigrum*, (*Linn.*).—Black Pepper.

The value of Pepper EXPORTED during the last five years was as follows:—

	Rs.
1879-80	6,42,853
1880-81	10,32,771
1881-82	8,01,463
1882-83	23,06,721
1883-84	16,13,362

(24) *Pimpinella Anisum*, (*Linn.*).—Anise seed.

(25) *Trigonella Fœnum-græcum*, (*Linn.*).—Fenugreek. The seeds of this plant are commonly used by the natives as a condiment in curries: they are offensive to Europeans.

(26) *Zingiber officinale*, (*Roscoe*).—Ginger. It is scarcely necessary to say anything regarding this well-known condiment. It is largely grown in India, and the exports to foreign

countries were in 1878-79 valued at Rs. 13,05,246, but they seem to have fluctuated considerably within the past few years: in 1882-83 they were only Rs. 6,55,542, but in 1884-85 they rose to Rs. 15,68,570.

To the native of India spices and condiments are indispensable. He will eat contentedly, by the stream side, a meal of uncooked flour and water, provided it is flavoured with a few green chillies. No luxury is more extensively indulged in than the habit of chewing *pan*. Turmeric (or *huldi*) is an essential ingredient in curry—the Indian national dish. An interesting trophy of spices and condiments was shown in this section of the Court, some 300 bottles of samples having been arranged in the form of a cone, placed on a small table.

Considerable anxiety was experienced in assigning a position to tea, coffee, and chocolate. It was felt that they were not strictly speaking food-stuffs, while the two former at least were distinctly narcotics, and were thus related to tobacco and spirits. They were accordingly thrown into a class designated "Narcotics and Stimulants," which included, in addition to those already mentioned, opium, Indian hemp, toddy, and wines, and spirits. This class was placed in a section of the Court, between the foods and the medicines. This leads us now to notice briefly—

CLASS X.—JAMS, SYRUPS, ESSENCES, PICKLES, &c.

A large assortment of samples of this class was shown, prepared by the best known Indian manufacturers, both native and European. These came from Bengal (chiefly Calcutta), the North-West Provinces (Lucknow and Cawnpore), from Bombay, and from Madras. A considerable future development of this trade seems possible. The demand for India preserves, curry-powders, pickles, and jams, has been greatly increased during the past few years. A large number of medals and certificates were awarded to the exhibitors.

CLASSES XI AND XII.

The exhibits of this class were not of much importance, and may be passed over. A few examples of preserved fish were exhibited, the most important collection being the one contributed by Dr. D. MacDonald of Bombay, as also a large assortment of specimens of salt and edible earths. Perhaps the most striking feature, however, of this class was the beautiful collection of stuffed edible fish, contributed by Deputy Surgeon-General George Bidie, C.I.E., Superintendent, Central Museum, Madras.

CLASS XIII.—CATTLE FOOD AND FODDER.

Few agriculturists cultivate food of any kind for their unfortunate cattle. The Indian bullocks are allowed to graze over waste lands or fields after the crops have been removed, and in this way pick up the bulk of their food as best they can. This is at most supplemented only by a feed of straw, cut up into small pieces and flavoured with oil-cake or other substances poured or sprinkled over the straw—(the curry-stuff of the bullocks'diet). The question of provisioning Government cattle is, however, of pressing importance, and is engaging the attention of the authorities. Gram (*Cicer arietinum*, see page 20) may be said to be the staple food given to these animals. Occasionally a small amount of oats is mixed with the crushed gram, and in Manipur and Burma unhusked rice is largely given to horses. The *dhúb* grass (*Cynodon Dactylon*) is the principal grass for horses. This is the characteristic and delicate turf of roadsides and waste places, especially where sand prevails. The roots as well as the stems are highly nutritious, and this largely accounts for the fact that the supply of *dhúb* grass is daily diminishing. The grass-cutter digs up both root and stem, the result being that around large towns this beautiful and most useful grass is practically speaking being exterminated.

Fodder plants may be referred to two large sections—

(*a*) Grasses, *i.e.*, members of the *Graminaceæ* and *Cryperaceæ*.

(*b*) Herbs, bushes, or trees.

The former are the principal fodder plants, but a few of the latter are beginning to be of importance in Europe and America, and in India of even still greater importance, since the question of grass-supply is becoming so serious. Popularly these are generally spoken of as green food and not as fodder, and the two most important families of plants affording such are *Leguminosæ* or the family of the peas and pulses, and *Cruciferæ*, or the family of the cabbage and the turnip. There are in India, however, many most exceptional instances of green foods belonging to families the least likely to prove nutritious or even wholesome. The whole subject therefore of fodder and green food supply requires to be gone into in a much more extended manner than has hitherto been done, and it would seem probable that many useful facts may yet be brought to light. India possesses a large series of indigenous plants which cattle regularly feed on, and the

fodder question may be more effectually solved by the cultivation of some wild plant than by attempts to acclimatize Lucerne or other exotics, which at most can be grown during the cold season only, or on certain special and limited tracts of country. Attention might, for example, be directed to the subject of *Börhaavia diffusa*, the *gádha purna*; *Amarantus gangeticus*, the *lál-sag*; *A. polygamus*, the *champa-natiya*; *A. tristis*, and other allied species. *A. spinosus* enjoys the reputation of increasing the quantity and quality of the milk given by cows fed on it. There are in fact many indigenous plants which the natives can readily point out as those which cattle are fond of, and it would seem desirable that some half a dozen plants of this nature should be carefully cultivated with the double object of discovering the degree to which they are capable of improvement under cultivation, and whether as a regular article of diet cattle fed on such plants would be found to thrive. These are facts which can only be discovered by experiment; but of course it should be borne in mind that many of the green foods lose their nutritious properties when dried like hay or preserved by ensilage. No class of plants can be so successfully preserved as the various grasses, and we may therefore enumerate here the leading Indian fodder grasses, of most of which samples were shown at the exhibition. We may in passing record our acknowledgment to Mr. J. F. Duthie, Superintendent of the Botanic Gardens, Saharanpur, for his instructive collection of fodder plants, and to Mr. Coldstream Commissioner, Hissar, who has contributed most interesting information regarding the fodder plants of the Panjáb, especially with reference to their adaptability for stacking.

INDIAN FODDER GRASSES.

(1) *Agrostis alba, (Linn.)*.—The Fiorin or White Bent Grass. Altitude 13,000 feet.

(2) *Alopecurus agrestis, (Linn.)* and *A. geniculatus (Linn.)*. —The Slender Fox-tail grasses are found on the plains of the Panjáb in damp places. They are described as good fodder grasses, fresh or dry.

(3) *Alopecurus geniculatus, (Linn.)*.—The Fox-tail grass inhabits Northern India from Kumaon to Kashmir.

(4) *Alopecurus pratensis, (Linn.)*.—The Meadow Foxtail grass. North-West Himálaya: altitude 5,000 to 8,000, also ascending to 13,000. Common in Kashmir and the Panjáb.

(5) *Andropogon Ischæmum*, (*Linn.*).—This is the *Palwal* of Saháranpur and *Jarga* of Aligarh and Muttra. It is grown on barren wet soils, and is considered one of the best fodder grasses, specially for making hay. It is eaten by cattle and horses, and the seed is regarded as nutritious.

(6) *Andropogon laniger*, (*Desf.*).—This is the *Juncus Odoratus* of the older writers—the *búr* or *khawi* of the Panjáb. When young, this grass may be grazed, will bear stacking, and last for 10 or 12 years. It flavours the milk, however, when much eaten.

(7) *Andropogon muricatus*, (*Retz.*).—This is the *Khaskhas*. It is eaten in times of scarcity, but only when young, *i.e.* immediately after the old stems have been burned down; it will not stack.

(8) *Andropogon pertusus*, (*Willd.*).—This is the *Palwa* of the North-West Provinces and Panjáb. It is regarded as one of the best grasses for stacking, remaining good for 12 or 13 years. It is described as excellent fodder for bullocks and horses, and is a favourite with buffaloes.

(9) *Andropogon Schœnanthus*, (*Linn.*).—This is the Geranium or *Rusa grass oil* plant. It is not very good for grazing. It grows on swamps. Is wild in Central India, the North-West Provinces, and sparingly so in the Panjáb. It is a tall grass, too coarse to stack, but useful for thatching and for screens.

(10) *Anthistiria ciliata*, (*Linn. f.*).—This is the Kangaroo grass of Australia, or the *Musel*. It is regarded as one of the most useful of fodder grasses in India, and its cultivation should be extended. It luxuriates in a warm, temperate climate, and is reported to occur at Banda, Saharanpur, Garhwal, and Kumaon, ascending to 7,000 feet in altitude.

(11) *Anthistiria polystachya*, (*Roxb.*).—This is the *Gándi* of the Panjáb. It grows in swamps, is much eaten by buffaloes, and is fragrant when green. It lasts 10 or 12 years when stacked. Does not grow in situations where *Andropogon laniger* occurs.

(12) *Apluda aristata*, (*Linn.*).—The *Bhanjuri* of North-West Provinces and *Góroma* of Bengal. A creeping grass found in hedges; used as fodder.

(13) *Aristida depressa*, (*Retz.*).—The *Lamp* or *Lamba* of the Panjáb. Mr. Coldstream says this cannot be cut with a scythe, as it is too fine. It is particularly relished by cattle, and is nutritious. It is, however, too short and light to stack.

(14) *Aristida setacea*, (*Retz.*).—The *Shipurgadi* of Madras. Used for making *tatties*. According to Roxburgh cattle will not eat it.

(15) *Arundinaria racemosa*, (*Munro*).—Extensively used in the Eastern Himálaya for fodder. Known in Nepal as *pathiu*. It occurs at an altitude of 7,000 feet.

(16) *Avena fatua*, (*Linn.*).—The Wild Oats. Collected for fodder. It occurs on the Himálaya, altitude 9,000 to 11,000 feet.

(17) *Avena pratensis*, (*Linn.*).—The Meadow Oat grass, found in Lahore, is viewed as a sweet fodder, and is recommended for cultivation on dry clay soils, at an altitude of 8,000 to 10,000 feet.

(18) *Avena sativa*, (*Linn.*).—The Cultivated Oats. This is frequently cut as a green fodder, but it is only cultivated to a small extent (see page 264).

(19) *Bamboo*.—Various species of bamboo are given as fodder, especially to elephants.

(20) *Bromus asper*, (*Linn.*).—The Hairy-Stalked Brome grass. Found on the North-West Himálaya in shady places.

(21) *Bromus schaderi*, (*Kunth.*).—The Prairie Grass of Australia. This has been introduced by the Superintendent, Botanic Gardens, Saharanpur. Baron von Mueller regards it as one of the richest of all grasses, spreading readily from seeds, particularly on fertile and humid soils.

(22) *Cenchrus echinatus*, (*Linn.*).—This is the *Dhaman* of the North-West Provinces and the *Basla* or *lapta* of the Panjáb. Considerable difference of opinion exists as to the merits of this grass.

(23) *Cenchrus montanus*, (*Nees.*).—This is called *Dhaman* or *Arjan* in the Panjáb.

(24) *Chloris barbata*, (*Swartz.*).—This is the *Chhota takria* of the Panjáb; the *Gandi* or *gavung* of North-West Provinces and the *Kondapulla* of South India. A grass not much used; will keep in stack for four or five years.

(25) *Chrysopogon aciculatis*, (*Retz.*).—The *Chore-kanta* of Bengal. Cattle do not eat this grass unless when very young. As soon as the spikes appear, they refuse to eat it, and indeed the spiny fruits are a great source of annoyance. Very common in Bengal along with the *Mutha* (No. 28) and the *Ulú* (No. 48).

(26) *Chrysopogon gryllus*, (*Trin.*).—Is grown in the plains and hills of Panjáb and North-West Provinces, and is a useful fodder grass.

(27) *Cynodon Dactylon*, (*Pers.*).—The Creeping Panic grass. The *Dhub* in Lower India and *Tilla* or *Khabbal* in the Panjáb. The properties of this grass are too well known to require any further notice than has already been given in the opening remarks regarding fodder (page 306).

(28) *Cyperus rotundus*, (*Linn.*).—The *Muthá* or *Mustá*. A grass like Cyperaceæ eaten by cattle. Very common in Bengal—Calcutta maidan.

(29) *Dactylis glomerata*, (*Linn.*).—Is a tall perennial grass common in the Panjáb and the North-West Province Himálayas, and is valued in Europe as a fodder grass for cattle.

(30) *Eleonurus hirsutus*, (*Vahl.*). — This is known as *Bhanjurí* in the North-West Provinces; the *Sin* in the Panjáb, or sometimes as *Sewan* or *Shewar*.

Mr. Coldstream says this is nutritious and good for grazing and stacking. It will last for 10 years. It is sweet when young, but becomes hard as it matures. The wilds of Bikaneer owe their usefulness to this grass. It is eaten by elephants: grows rapidly, often attaining a height of eight feet. A fibre is made from the roots, used as brushes by the weavers. It is supposed that this is the *Cusa* grass of ancient writers (*see Tod's Rajasthan, II*, 286).

(31) *Eleusine ægyptiaca*, (*Pers.*).—This is the *Makra-jáli* of Lower India, and the *Bhobra* or *therna* and *madana* of the Panjáb. It grows wild by roadsides and on pasture lands in the Panjáb and North-West Provinces. It is described as good for fodder, cattle being fond of it. It may be stacked.

(32) *Eleusine Corocana*, (*Gaertn.*).—See Millets.

(33) *Eleusine flagellifera*, (*Nees.*).—This is the *Gurdub* of the North-West Provinces and *Ghantil* of the Panjáb. It is an abundant creeping grass common on arid parts of the Panjáb. Is well known and useful; will stack for 9 or 10 years. Is regarded as a specially good food for donkeys.

(34) *Eleusine verticillata*, (*Roxb.*).—This is said to be known in the Panjáb as *Therna*. It is not very abundant, but is good for cattle, and will stack for 12 to 15 years.

(35) *Eragrostis Brownei*, (*Nees.*).—This is the *Bharí* of Aligarh. A perennial grass, frequenting barren wet places: is eaten by cattle and horses.

(36) *Eragrostis ciliaris*, (*Linn.*).—General in the Panjáb. It is not abundant, but is regularly grazed.

(37) *Eragrostis cynosuroides*, (*Retz.*).—The *Dab* or *daboi*, North-West Provinces; the *Kusha*, Bengal; and the *Dib* of Panjáb.

A strong, coarse grass common in dry, barren ground and sandy places in the Panjáb, the North-West Provinces, and Sind. Cattle do not eat it as a rule, though it is liked by buffaloes.

(38) *Eragrostis diandra*, (*Roxb*)—This is the *Bara bhurbhurí* of Muttra; it is found in the plains of Panjáb and North-West Provinces and on the Himálaya at low elevations; it is eaten by cattle, and the seeds are said to be nutritive

(39) *Eragrostis pilosa*, (*Beauv.*).—This is known as *Gádar púnch* (the jackal's tail) in the Panjáb. Buffaloes are said to relish it.

(40) *Eragrostis plumosa*, (*Link.*).—The *Phulwara*, North-West Provinces. Is eaten by horses and cattle.

(41) *Festuca duriuscula*, (*Linn.*).—The Hard Fescue Grass; a good sheep fodder.

(42) *Festuca elatior*, (*Linn.*).—Met with at Binsár in Kumaon. Muller describes it as "well adapted for permanent pastures, has tender leaves, produces excellent hay, and is early out in the season. It is superior to rye-grass in produce."

(43) *Festuca gigantea*, (*Vill.*).—Is said in the North-West Himálaya to be a good forest grass.

(44) *Glyceria fluitans*, (*R. Br.*).—The Maund Grass. A perennial grass with tender foliage: delights in stagnant water, ditches, &c., covering their surface. Met with in Baspa valley; altitude 9,000 feet.

(45) *Hemarthria compressa*, (*R. Br.*).—This is the *Ransherú, buksha* of Bengal. A perennial grass of the plains extending to the Panjáb. Cattle are said to be fond of it.

(46) *Heteropogon contortus*, (*R. & S.*).—The Spear Grass. This is the *Parba, banda, sarwar, lap* of the North-West Provinces, and the *sarwála, suriala* of the Panjáb and *Shervu* of Telegú. When tender it is eaten, but when old is refused, owing to the barbed seeds. It will keep good in stack for 12 years. This is the main fodder grass of Bandelkhand. It makes good hay when the seeds fall off.

(47) *Hordeum vulgare*, (*Linn*). — The Barley, the *Jub* or *jav*.

(48) *Imperata arundinacea*, (*Cyrill.*).—This is the *Ulú* of Bengal; the *Usirh, sir, sil, bharwai* of Upper India. A small grass, inhabiting the plains and hills of Bengal, the North-West Provinces, and Sind. Very characteristic of

Lower India—Calcutta maidan. The fields are white with its silky flowers, which appear after the first rains. Only grazed when young. If allowed to mature, cattle will not eat it. Much used for thatch.

(49) *Lolium perenne*, (*Linn.*).—The Hay or Perennial Rye Grass. Met with in Thibet: altitude 15,000 feet: extensively grown in Europe along with clover, and is considered the most important of all the fodder grasses.

(50) *Lolium temulentum*, (*Linn.*).—The Darnel; inhabits the plains and hills of North-West India. Often a common weed in corn-fields.

(51) *Melica ciliata*, (*Linn.*).—The *Lanata* of Kumaon; a perennial fodder grass particularly desirable for sheep.

(52) *Oryza sativa*, (*Linn.*).—The Common Rice is extensively used as fodder in India. The straw cut up in small pieces is given to cattle all over the rice-producing districts.

(53) *Panicum antidotale*, (*Retz.*).—The *Gamur* or *ghamor*, North-West Provinces; *Ghamur*, *garm*, *mangrur*, Panjáb. A tall grass common on the Gangetic plains, and in the Panjáb and Sind.

Difference of opinion prevails regarding this grass: it is only eaten when young.

(54) *Panicum colonum*, (*Linn.*).—The *Shama* of Bengal; the *Sarwak*, or *shamak* of the North-West Provinces; and the *Sámak* of the Panjáb. An abundant grass throughout the plains, especially on cultivated soils: cattle are fond of it. One of the best grasses for forage, and will remain good in stack for five or six years. The grain is also collected and sold.

(55) *Panicum crus-galli*, (*Linn.*).—This is the *Dhand* or *jal-sawank* of the North-West Provinces, and the *Bharti* of the Panjáb. Found on the plains, growing on moist soils: ascends to 6,000 feet. This is a coarse species, and cattle are not fond of it. The seeds are collected as an article of diet. The Hindús make *Khir* from it on feast days.

(56) *Panicum frumentaceum*, (*Roxb.*).—This is the *Shamula*. The stems are given to cattle as fodder (see Millets, page 262).

(57) *Panicum helopus*, (*Trin.*).—This is the *Basaunta* of the North-West Provinces, and the *Kuri* of the Panjáb. It occurs on the plains and on the Hmálaya up to 5,000 feet, chiefly on cultivated lands. Considered a good fodder grass; will last seven years in stack.

(58) *Panicum miliaceum*, (*Linn.*)—The *Chena* (see Millets, page 262).

(59) *Panicum miliare*, (*Lamb.*).—This is the *Shamay* and the *Kutki* of Hindustan and *Chin* of the Panjáb; the lesser millet. It grows in fields, and is scarcely met with in the jungles. It is very good for grazing. The seeds are an article of diet, and the straw is given as fodder.

(60) *Panicum psilopodium*, (*Trin.*).—This is the *Kutki* of the North-West Provinces.

(61) *Panicum repens*, (*Linn.*).—A perennial, suited for river banks and swampy places. Cattle are said to be fond of it.

(62) *Panicum sanguinale*, (*Linn.*).—This is the *Makur-gali* or *Kewar* of the North-West Provinces, and *Bara takria* of the Panjáb. It is found on the plains of the North-West Provinces and Panjáb, ascending to the hills: frequent in Nepal. Is regarded as good for grazing. It lasts in stack seven to eight years.

(63) *Paspalum scrobiculatum*, (*Linn.*).—The *Khoda* Millet, which see, page 263.

(64) *Pennisetum cenchroides*, (*Rich.*).—This, like *Cenchrus montanus*, is known in the Panjáb as *Dhaman* and *Arjan*. Common on the plains and lower hills of the Panjáb and the North-West Provinces. One of the most nutritious of all the grasses, and very fattening. Good both for grazing and stacking. Will last 15 to 20 years if kept dry. Abundant in some parts of Bikaneer, but is one of the first plants to give way to the plough: hence as a wild plant it is becoming rare. In Multan the seeds are collected as food.

(65) *Pennisetum typhoideum*, (*Rich.*).—The Spiked Millet (see Millets, page 262). The green stalks chopped are used as fodder.

(66) *Phleum pratense*, (*Linn.*).—The Timothy or Meadow cats-tail grass met with in the Himálaya; is considered one of the most valuable fodder grasses, especially for heavy moist soils.

(67) *Phragmites communis*, (*Trin.*).—The Common Reed—the *Dila* of the Panjáb. In Ladak this is eaten by cattle, and in Lahoul is used for roofing. Sandals are made from the stems.

(68) *Poa annua*, (*Linn.*).—The *Chirua* of the North-West Provinces. A good pasture grass met with in the plains and hills of the Panjáb and North-West Provinces; is common in Europe.

(69) *Poa pratensis*, (*Linn.*).—The Smooth-stalked Meadow grass found in Kashmir and Thibet. In Europe this is

considered a good fodder grass, and valuable, as affording early hay.

(70) *Pollinia eriopoda*, (*Hance.*).—This is the *Bhabar* Grass, regarding which, as a paper material, considerable interest has recently been taken. It is viewed as good fodder.

(71) *Saccharum Sara*, (*Roxb.*).—The *Sara*, or *Shur*. This, as indeed most other species of the genus, may be eaten as fodder when young or before it has flowered.

(72) *Saccharum spontaneum*, (*Linn.*).—This is the *Káns*, *kásí*, and *káhi* of the Panjáb, and *Rara* of Lucknow. It is given when young as fodder to buffaloes.

(73) *Scripus Kysoor*, (*Roxb.*).—The *Kasurio*, Hind.; *Kesur*, Bengal; and the *Kaseru* of the Panjáb. A weed common on the borders of lakes and ponds. When fresh this is regarded as good forage.

(74) *Setaria glauca*, (*Beauv.*).—This is the *Bhandra* or *dissi* of the North-West Provinces; common on the plains and lower hills.

(75) *Setaria italica*, (*Beauv.*).—German Millet (which see).

(76) *Setaria verticillata*, (*Beauv.*).—This is the *Kútta chirchitta* of the North-West Provinces; the *Dora-byara* of Hindústan, and the *Chirchira* of the Panjáb.

Found on the plains and hills of the Panjáb and ascending the Himálaya to 6,000 feet in Naini Tal; also found in Nepal. Delights in a rich soil, especially on rubbish heaps. Cattle eat it when young or before the flowers appear, and the seeds are a favourite with birds.

(77) *Sorghum halpense*, (*Pers.*).—This is the *Bajra*, *bara*, of Bundelkhand, and the *Barú* or *braham* of the Panjáb. This is described by Mueller as a rich perennial grass. In Hazara however it is stated that fatal head affections often result from eating it. It is common about cultivated lands, and is frequently grazed by cattle, and relished: will remain in stack for five years. The seed is collected and mixed with *bájra* flour, and in this form it enters largely into the food of the poorer classes of Bikaneér (*Tod's Rajasthan, II, page* 170).

(78) *Sorghum saccharatum*, (*Pers.*).—The Chinese Sugar-Cane. The grass is used as a valuable fodder for cattle.

(79) *Sorghum vulgare*, (*Pers.*).—The Great Millet (which see, page 263). The dry stalks and leaves are chopped and given as cattle fodder. Indeed, it is sometimes grown solely for this purpose, the green stalks, before flowering, being cut up and given to cattle.

(80) *Sporobolus pallidus*, (*Lind.*).—This is the *Palinji* of the Panjáb. It is not valued as a food, but the grain is eaten in times of scarcity.

(81) *Sporobolus tenacissimus*, (*Beauv.*).—This is the *Usar-ki-ghas*, *kalusra* of the North-West Provinces, and *Kheo* of the Panjáb; the *Tæmagerika* of Telegu. It is the grass of the barren or *usar* lands. Is both good for grazing and for stacking, and will last for 14 or 15 years. Its long roots penetrate the soil in search of moisture. It is particularly good for horses.

(82) *Tragus racemosus*, (*Hall.*).—This is known as *Bharchinti* in the Panjáb. It is common on cultivated lands, but is too small to be stacked. It is, however, a very nutritious grass, much grazed during the rains.

(83) *Triticum sativum*, (*Linn.*).—The Wheat (which see, page 272). The straw affords a valuable fodder for cattle.

(84) *Zea Mays*, (*Linn.*). — The Indian corn. The green stalks are given as cattle fodder.

The following exhibitors of food-stuffs and agricultural produce are specially deserving of mention:—

Mr. J. B. Fuller, Director of Agriculture, Central Provinces; Major D. G. Pitcher, Assistant Director of Agriculture, N.-W. Provinces and Oudh; Mr. J. F. Duthie, Superintendent, Botanic Gardens, Saharanpur; Mr. A. Parsons, of the Annandale Gardens, Simla; Babu Amba Dutt Joshi, of Almora; Babu Mahendra Nath Bhattacharjya, M.A., B.L., Deputy Magistrate and Deputy Collector, Bogra; Babu Gour Chandra Roy, of Rangpur; Lala Ajodhya Proshad, Shahjahanpur; and Babu Nanda Lal Banerji, of Rahuta. Roy Kanny Loll Dey Bahadur, C.I.E., exhibited an instructive collection of specimens intended to show the nutritive elements of the different substances used as food by the people of Bengal.

ETHNOLOGY.

The Ethnological objects shown in this section of the Court were presented by the Chief Commissioner, Andaman and Nicobar Islands. This, which was the most interesting ethnological collection shown at the exhibition, was prepared by Mr. E. H. Man, Assistant Superintendent, Andaman Islands. There were five life-sized clay figures of Andamese and three Nicobarese.

In addition to the Andaman collections a portion of the Assam ethnological objects were displayed in this section. These consisted of a set of fishing appliances contributed by

the Assam Government, and five life-sized clay figures of Gáros, and two Khasias and two Jaintias. Dr. J. McNaught brought the Gáros to Calcutta by orders of the Chief Commissioner of Assam, and presented the museum with a small, but interesting collection of Gáro objects of adorment and domestic life. The Khasias and Jaintias were brought by Major Trotter, the officer in charge of the Assam Court. During the time of the Exhibition these hill tribes were modelled in clay, the operations of the modeller being carefully watched by many visitors.

Having now drawn attention to the main features of the system of classification adopted by Dr. Watt in the Economic Court, as illustrated by the section devoted to the exhibition of food-stuffs, we must be contented to conduct the reader very rapidly through the remaining sections, alluding only very briefly to the more striking features of this most instructive display of economic products.

SECTION II.—THE OILS, OIL-SEEDS, SOAP, PERFUMERY, &c.

Passing through the second arch, upon which were displayed an interesting collection of arms, the section of the Court devoted to oils and their allies was entered. The exhibits shown are described in Part IV, which comprises 72 pages and 316 oils and oil-seeds.

In Mr. J. E. O'Conor's Trade and Navigation Returns the oil-seeds are given under the heading "Seeds." A few of these may possibly be used as spices and condiments; or, on the other hand, may be distilled for their essential oils. This is an unavoidable difficulty, but the amounts of the doubtful or undefined seeds are comparatively small, so that the returns under "seeds" may be accepted as meaning "oil-seeds." In his interesting review of the Sea-borne Foreign Trade for 1884, Mr. O'Conor says of these seeds: "The dimensions of this great trade have largely increased—more than doubled—since 1879—

	Cwt.	Rs.
1879-80	7,091,469	4,08,58,929
1880-81	10,229,109	6,34,52,089
1881-82	10,466,098	6,05,40,987
1882-83	13,139,206	7,20,03,305
1883-84	17,355,588	10,08,37,583

"The trade of the year was larger than that of the previous year by as much as 32 per cent. Linseed, rapeseed,

til, earthnuts, and castor seed, were all exported in largely increased quantities, and amongst the important kinds of oil-seeds poppy alone decreased in quantity. Of linseed 8½ millions (8,543,766) cwt. were exported—a quantity 27 per cent. in excess of the previous year's trade. Of rape-seed nearly four millions hundredweight (3,945,727), which was 40 per cent. more than in the previous year.

"Til or jinjilee, 2,853,382 cwt., an increase of 24 per cent. In earthnuts the trade was little less than threefold that of 1882-83, the exports amounting to 712,954 cwt.—a very satisfactory figure, considering that this is a trade of but recent origin. The exports of castorseed also were more than double those of the previous year. On the whole, last year's trade in oilseeds was one of very remarkable activity and of unprecedented dimensions."

The enormous amount of oilseeds exported from India is out of all proportion to the quantity of prepared oils. It has been repeatedly pointed out that mills for the preparation of oil in India would seem likely to prove highly remunerative. The following are the exports of prepared oils excluding medicinal oils for the five years ending March 1884:—

	1879-80.	1880-81.	1881-82.	1882-83.	1883-84.
Gallons ...	4,205,815	4,999,184	4,305,176	3,644,632	4,337,151
Rs. ...	56,94,532	58,11,394	46,82,274	41,62,768	48,21,383

Of these exports three-fourths are castor oil: of cocoa-nut oil, the only other oil of any importance, 988,514 gallons, valued at Rs. 11,82,896, were shipped to the United Kingdom and France in 1883-84.

Very extensive collections of oil-seeds were shown, especially those contributed by the Chamber of Commerce, Bombay; by Mr. J. B. Fuller, Director of Agriculture, Central Provinces; by Major D. G. Pitcher, Agricultural Department, Oudh; Mr. J. F. Duthie, Saharanpur; by Mr. H. L. Wooldridge, South Arcot; and by Mr. T. P. Peake, of South Kanara.

The following may be enumerated as the most interesting and useful oils:—

(1) *Acorus Calamus*, (*Linn.*).—An essential oil, used by perfumers.

(2) *Aleurites moluccana*, (*Wilid.*).—The Candle-nut or Belgaum walnut. This contains 50 per cent. of oil—*Kekuna* oil.

(3) *Anacardium occidentale*, (*Linn.*).—The Cashew nut or Cardole. This yields two distinct oils—a bland oil obtained

from the kernels, and cardole obtained from the pericarp of the nut. Of the former 40 per cent. is obtained, and of the latter 29 per cent.

(4) *Andropogon citratus*, (*DC.*).—Lemon grass oil.

(5) *Andropogon muricatus*, (*Retz.*).—The *Khas-khas* oil.

(6) *Andropogon Nardus*, (*Linn.*).—The Citronella.

(7) *Andropogon Schœnanthus*, (*Linn.*). — The Geranium grass oil or *Rusa* oil.

(8) *Aquilaria Agallocha*, (*Roxb.*).—The *Agar* or Eagle-wood—an essential oil.

(9) *Arachis hypogœa*, (*Linn.*).—The Ground-nut or Earth-nut. This may be described as a modern industry; the oil, as a substitute for olive oil, having within the past 30 or 40 years developed in an almost unprecedented manner. The exports from British and French India of the seeds were in 1880-81 valued at Rs. 24,47,158, but in 1883-84 they were Rs. 37,65,462 from British India and Rs. 29,68,699 from Pondicherry and Karikal (French possessions). France is said to have imported in 1875 from all countries 33½ million francs worth of the nuts, of which India supplied only 2½ millions, less than one-fifth of which went from ports in British India. The trade in ground-nuts, and especially that from British India, has greatly improved since 1875, but even with its present flourishing condition it has by no means reached its greatest possible development.

(10) *Bassia butyracea*, (*Roxb.*).—The Indian Butter Tree.

(11) *Bassia latifolia*, (*Roxb.*).—The *Mahúa*.

(12) *Bassia longifolia*, (*Willd.*).—The *Mahúa* of South India. The seed of this and of the preceding yield a good oil.

(13) *Brassica campestris*, (*Linn.*) *var.* 1. *campestris* proper —or *Sinapis dichotoma*, (*Roxb.*).—The Cole seed; var. 2, *glauca*—The *Sarson* or Rape; and var. 3, *Toria*—*Brassica glauca*, (*Royle*).

(14) *Brassica juncea*, (*H. f. & T.*).—The Indian Mustard. The names Rape and Mustard are very obscurely applied to the forms of 13 and 14. The subject requires to be more carefully worked up. The internal trade returns are sometimes published as "Rape," at other times as "Mustard," or again under the joint heading "Rape and Mustard." The true mustard is scarcely met with in India. Collectively the foreign exports of rape and mustard for the year 1883-84 were 3,955,838 cwt., valued at Rs. 2,44,78,844.

(15) *Buchanania latifolia*, (*Roxb.*).—The *Chirauli*. The oil is obtained from the kernels of this fruit, but owing to these being so much eaten, it is only rarely prepared.

(16) *Butter.*—Indian butter is very inferior to that of Europe, and is chiefly used in the form of *ghi* or clarified butter.

(17) *Calophyllum inophyllum*, (*Linn.*).—The Alexandrian Laurel or *Sultana champa*. The fresh seeds yield a quantity of fragrant green oil. A curious fact regarding this oil is that though it cannot compete with castor oil for industrial purposes, in the Calcutta market it fetches about four times the Calcutta price of castor oil in Burma. The oil is said to be chiefly used for burning.

(18) *Camphor.*—This term is technically given to a number of gum-resins derived from (1) *Cinamomum Camphora*, (*Nees.*),—the Japan camphor; (2) *Dryobalanops Camphora*, (*Colebr.*),—the Sumatra camphor; and (3) *Blumea blasamifera* (*DC*).

(19) *Cananga odorata*, (*H. f. & T.*).—This yields the perfume Ilang-Ilang.

(20) *Carthamus tinctorius*, (*Linn.*).—The Safflower or *Kusum*. The seed of this plant yields an oil useful for burning, as it gives out very little heat: it is also eaten, and is said to be an ingredient in "Macassar hair-oil."

(21) *Carum Carui*, (*Linn.*).—Caraway seeds. A valuable essential oil, called the Caraway oil, is obtained from the seeds; used in medicine, also as a perfume for soaps.

(22) *Caryophyllus aromaticus*, (*Linn.*).—The Cloves. The colourless or yellowish essential oil obtained from the flower-buds and flower-stalks is extensively used in the manufacture of perfumery.

(23) *Cinnamomum zeylanicum*, (*Breyn.*).—The important Cinnamon oils are obtained from this plant, and are of three kinds, *viz.* oil extracted from the bark, from the leaves, and from the root. These oils are largely used in perfumery, especially the first.

(24) *Citrus medica*, (*Linn.*) *var. Limetta.*—The Sweet Lime of India. The essential oil known as the "Essence of Lemon" is extracted from the rind of the fruit. It is extensively used in the manufacture of perfumery.

(25) *Cleome viscosa*, (*Linn.*).—Sometimes known as Wild Mustard. A thin light oil is expressed from the seeds, which is likely to prove serviceable where a very liquid oil is required. The plant being a common weed in Bengal, the oil could be prepared to any extent.

(26) *Cocos nucifera*, (*Linn.*).—The Cocoa-nut. The well-known cocoa-nut oil is extracted from the kernel of the fruit

It is largely exported to Europe, where it is used in the manufacture of candles and soap.

(27) *Croton Tiglium*, (*Linn.*).—The Purging Croton. The seeds yield a valuable medicinal oil, which is used as a drastic purgative.

(28) *Dipterocarpus turbinatus*, (*Gaertn. f.*).—The Wood-oil obtained from this tree is used in painting houses and ships, as well as in medicine—a remedy for skin diseases.

(29) *Elettaria Cardamomum*, (*Maton.*).—The Lesser Cardamom. An oil is extracted from the fruits by distillation.

(30) *Eruca sativa*, (*Lam.*).—The oil expressed from the seeds is largely used in Upper India for burning purposes.

(31) *Euphorbia dracunculoides*, (*Lam.*).—The oil obtained from this tree is used as a drying oil and for burning. In 1843 the London brokers pronounced it more valuable than linseed oil.

(32) *Excœcaria sebifera*, (*Müll. Arg.*). — The Chinese Tallow Tree. The seeds yield an oil resembling white and solid tallow, pure and inodorous, used in the manufacture of candles.

(33) *Flacourtia Cataphracta*, (*Roxb.*). — The *Paniala.* Seeds yield an oil, but which as yet has received no attention.

(34) *Garcinia indica*, (*Choisy.*) —The Kokum Butter, as the oil from the seeds of this plant is called, is recommended for many medicinal purposes.

(35) *Garcinia Morella*, (*Desv.*).—The Gamboge tree. A semi-solid fat obtained from the seeds is burnt as a lamp oil by the rich, and eaten as a substitute for *ghi* by the poor.

(36) *Glycine Soja*, (*Sieb.*).—The Soy Bean. Large quantities of this seed are annually consumed in the manufacture of an edible oil.

(37) *Guizotia abyssynica*, (*Cass.*).—The Niger-seed and oil. The seeds yield a limpid, clear, pale, sweet-tasted oil, used for culinary purposes.

(38) *Gynocardia odorata*, (*R. Br.*).—The *Chaulmúgra* oil. The oil obtained by expression of the seeds is a valuable remedy for cutaneous diseases.

(39) *Helianthus annuus*, (*Linn.*) —Sunflower. A clear, fluid oil, resembling ground-nut oil, is obtained from the seeds of this plant.

(40) *Jasminum grandiflorum*, (*Linn.*).—The Spanish Jasmine.

(41) *Jasminum Sambac*, (*Aiton.*).—The Arabian Jasmine. The flowers of these two plants (40 and 41) are largely used

in the preparation of perfumed oils. An Otto is also extracted from them.

(42) *Jatropha Curcas*, (*Linn.*).—The Physic nut. The seeds yield about 30 per cent. of a pale-coloured oil, used for burning in lamps, and in medicine as a purgative.

(43) *Jatropha glandulifera*, (*Roxb.*).—The light, straw-coloured oil obtained from the seeds is used in medicine.

(44) *Juglans regia*, (*Linn.*).—The Walnut. The kernels yield about 50 per cent. of oil, largely extracted in Kashmir.

(45) *Linum usitatissimum*, (*Linn.*).—The well-known Linseed oil is obtained from the seeds of this plant. Upwards of five million hundred weight of this seed, valued at three crores of rupees, are annually exported from India.

(46) *Melaleuca Leucadendron*, (*Linn.*).—The *Cajput* oil tree. The leaves yield Cajput oil, largely exported from the Malay archipelago. It is used in medicine as a stimulant and diaphoretic.

(47) *Melia Azadirachta*, (*Linn.*).—The *Nim* oil expressed from the seeds is used in medicine.

(47*a*) *Mesua ferrea*, (*Linn.*).—The *Nagesar*. The oil extracted from the seeds is used for burning in lamps and as a medicine.

(48) *Moringa pterygosperma*, (*Gaertn.*).—The Horse-radish tree. The *Ben* or *Moringa* oil of watchmakers is obtained from the seeds of this plant; it is used for medicinal purposes. Very little, however, is extracted in India but, as the tree is very common, the subject appears to deserve attention.

(49) *Murraya Kœnigii*, (*Spr.*).—The clear, transparent oil, known as *Simboli*, or *limboli*, is the product of this plant.

(50) *Myristica moschata*, (*Willd.*).—The Nutmegs yield an essential and a fixed oil. The former enters largely into the composition of English perfumery, but especially in that of Frangipani. Formerly soap, known as Banda soap, was prepared from the fatty oil or butter of nutmegs. Excellent samples of *Nutmegs and of Mace* were exhibited both from Madras and from Ceylon.

(51) *Nardostachys Jatamansi*, (*DC.*).—The Spikenard. The root is largely used in native perfumery.

(52) *Olea ferruginea*, (*Royle*).—In Afghanistan an oil is obtained from this tree, which would doubtless take an important place in the oil trade were it procurable in large quantities; it is as good in quality as the ordinary olive

oil. The olive-tree, *Olea europea*, (*Linn.*) has been introduced in the hills, and there seems every reason to expect that India may soon take a place amongst the countries which supply the olive oil of commerce.

(53) *Papaver somniferum*, (*Linn.*).—The Poppy. An oil is expressed from the seeds, which is used for culinary purposes and as a demulcent medicine.

(54) *Peucedanum graveolens*, (*Benth*).—An essential oil is distilled from the seeds, which may be used in mixtures for perfuming soap.

(55) *Pimpinella Anisum*, (*Linn.*).—The Anise Seed. An essential oil obtained from the fruit is largely used in the preparation of cordials. It is also employed for scenting soaps and pomatums.

(56) *Pistacia vera*, (*Linn.*).—The Pistachio Nut. The oil extracted from the kernels is used medicinally as a demulcent and restorative.

(57) *Pogostemon Patchouly*, (*Pellet.*). — *Patchouli.* An essential oil is obtained from this plant and used as a perfume.

(58) *Pongamia glabra*, (*Vent.*).—The seeds yield a red-brown, thick oil, used for burning, and medicinally as an application for skin diseases.

(59) *Prunus Amygdalus*, (*Baillon.*).—The Almond Oil is largely used in the manufacture of perfumery, and in medicine.

(60) *Prunus armeniaca*, (*Linn.*).—The Apricot. The oil obtained from the seeds is used in burning and cooking and as a hair oil.

(61) *Prunus persica*, (*Bth. and Hook. f.*).—The Peach. The oil obtained from the kernels is used in cookery, and for lamps.

(62) *Raphanus sativus*, (*Linn.*).—The Radish. The seeds yield an oil used for burning and for culinary purposes.

(63) *Rhus succedanea*, (*Linn.*).—The seeds yield a fine yellowish-white wax, known in commerce as "Japan wax."

(64) *Rhus Wallichii*, (*Hook.*).—The seeds yield a fine yellowish-white wax, similar to that obtained from the preceding.

(65) *Ricinus communis*, (*Linn.*).—The Castor-oil plant. The seeds yield by expression the well-known Castor-oil. The annual export of the oil from India is above three million gallons, valued at about thirty lakhs of rupees.

(66) *Rosa alba*, (*Linn.*).—The rose oil or otto of roses is largely made in the North-West Provinces and the Panjáb.

(67) *Santalum album*, (*Linn.*).—The True Sandal-wood. The roots yield a scented oil, largely used as a basis in the manufacture of different kinds of ottos. The seeds by expression give a thick, viscid oil, which is burnt in lamps.

(68) *Sesamum indicum*, (*Linn.*).—Gingelly or Sesame oil. Large quantities of oil are extracted from the seeds of this plant by simple expression. This oil is in India used for culinary purposes, and to anoint the body; also in soap manufacture and as a lamp oil. The annual export of the seed is nearly two million of hundred weights, valued at about one crore and twenty-two lakhs of rupees.

(69) *Tectona grandis*, (*Linn.*).—The Teak tree. The oil obtained from Teak-wood is used as a varnish for wood-work.

(70) *Terminalia Catappa*, (*Linn.*).—The Indian Almond. The seeds yield a limpid oil, resembling almond oil. It does get so readily rancid as the true almond oil.

(71) *Vateria indica*, (*Linn.*).—The Piney Varnish or Indian Copal tree. The seeds yield a solid, concrete fat, suitable for the manufacture of candles and soap.

SECTION III.—NARCOTICS AND STIMULANTS.

The following are the substances which naturally fall into this section:—

Tea.	Beers and Ales.
Coffee.	Vinegar.
Cocoa.	Opium.
Tobacco.	Indian hemp.
Rum and other spirits.	Other narcotics and stimulants.
Wines.	

Objection may be taken to cocoa being placed here; but while not a narcotic, it is more nearly related to tea and coffee than to any other substance. The total imports and exports of these substances for the year 1883-84 were valued at Rs. 18,79,10,416.

(1.) Tea—*Camellia theifera*, (*Griff.*)

A few trade samples of tea were shown in this Court, but the principal display was in "The Tea Syndicate's Pavilion." The imports of tea into India amounted to 2½ million pounds, valued at Rs. 23¾ lakhs. A large proportion of this was green tea intended for the Persian and Afghanistan market. The exports were 59,911,703lbs, valued a

Rs. 4,08,38,805. A considerable decrease of exports to Australia took place. The total exports and imports during 1883-84 were thus Rs. 4,32,14,946.

(2.) Coffee—*Coffea arabica*, (*Linn.*)

The condition of the Indian coffee trade is unsatisfactory, the quantity exported for the year 1883-84 having been smaller than for 1882-83. While values have declined, the exports can scarcely be said to have advanced for the past five years. Much of the Indian coffee goes to Arabia, Persia, Egypt, Turkey in Asia, and even to Mauritius.

The total imports and exports in 1883-84 were valued at Rs. 1,49,60,775.

(3.) Tobacco.

Perhaps no other plant is so much used by the inhabitants of the world as tobacco. It has been calculated that one-fourth of the entire human family use it. The exports of leaf and manufactured tobacco from India during the year 1883-84 were valued at Rs. 16,76,505, and the imports (manufactured) at Rs. 7,60,565. The total value of the Indian trade for 1883-84 was thus Rs. 24,37,670. A very large collection of raw and manufactured tobacco was exhibited, and many certificates and medals awarded.

There are two distinct species met with in cultivation in India:—

(*a.*) *Nicotiana rustica*, (*Linn.*)—This species is easily recognized by its greenish flowers and stalked ovate leaves. The leaves are coarser and much crumpled, but dry readily. This is generally known as Turkish tobacco. In the Panjáb it is known as *Chilassi-tamaku*, and in the North-West Provinces as *Culcuttia-tamaku*. It is by no means so plentiful as the next species, but is often met with in certain isolated localities, but it is a remarkable fact that it nowhere in India appears self-sown. It is the principal species cultivated in Manipur, for example, while the ordinary form takes its place in Silhet on the one side and Burmah on the other.

(*b.*) *Nicotiana Tabacum*, (*Linn.*)—This is the form generally cultivated in India, and in some parts of Bengal is almost naturalised. It is often self-sown, and frequents lanes and roadsides in the vicinity of villages. The uncultivated islands and sandbanks on the Hugli river above Calcutta are almost covered with wild tobacco appearing in the cold season and flowering in the beginning of the hot weather. Botanists agree in regarding tobacco as of American origin: it is certainly not a native of India, although cultivated throughout the Empire. The flowers are always more or less pink-coloured, and the leaves lanceolate, tapering into a winged sheath, but never peteolate as in the preceding form.

(4.) Spirits.

While a very large internal trade is carried on in the distillation of *Arrack* and spirits of various qualities, very

little is exported. Within the past five years, however, rum has begun to be exported to a considerable extent, and during the year 1883-84 over 4½ lakhs of rupees worth were exported to the United Kingdom. An assortment of samples of Indian rum were shown at the Exhibition and obtained awards. The following is the total of the imports and exports of spirits for the year 1883-84, Rs. 72,75,974.

(5.) Wines, beers, and other liquors, but not spirits.

Considerable interest was taken in the samples of red and white wine exhibited by his Highness the Maharajah of Kashmir, and the latter obtained a certificate of a gold medal. The idea of India coming into the market as a wine-producing country seemed to amuse most persons, and was even viewed with considerable suspicion by some of the colonial exhibitors. The total of the imports of wines into India during the year of the Exhibition was Rs. 40,11,383. Adding to this the imports of ale, beer, porter, and other sorts of liquors, (amounting to Rs. 30,61,407), and a small export trade (amounting to Rs. 1,874), we find that the imports and exports of spirits and wines, &c., came to Rs. 1,43,50,638. This does not of course include the immense internal trade, both in *toddy* and country spirits, nor the growing and important trade in Indian beer.

(6.) Opium—*Papaver somniferum*, (*Linn.*)

In India the poppy plant is known as *Posta*, and the inspissated juice—Opium—as *Afim*.

Poppy has been known from a remote period. It seems to be a cultivated form of *Papaver setigerum*, *DC.*, a native of the shores of the Mediterranean, Spain, Sicily, Greece and the island of Cyprus. As this wild form has not been met with in Eastern Asia, the probability is that the cultivated plant was introduced into India. The existence of Sanskrit names and a large series of vernacular names would favour the idea, however, of its having been introduced at a very remote period.

At the present day opium cultivation is circumscribed. Except in native states it is retained as a Government monopoly. Certain districts are permitted to cultivate the plant, but cultivators wishing to grow it must obtain a license. An advance of Rs. 12 to Rs. 13 an acre is made in two instalments,—one before the seed is sown, and the other two months after. The seed is sown broadcast in October; the plants progress slowly through December and January, but in February they are in full flower, and the crop commences to yield at once The petals are carefully collected, care being taken not to break or injure the plants in any way. For this purpose women and children are busily employed, moving about up to their waist in the field; the petals are purchased for packing purposes. At the same time, the half-ripe capsules are system-

atically scratched with an instrument called the *cheni* or *maharni*. This is made of four small knives tied together, the blades appearing like the teeth of a comb. The scratching is done in the afternoon, and in the morning it is found that the milky sap has exuded and hardened over the wounds. This is carefully scraped off and preserved in an earthen vessel. The operators move over the field, returning in regular order to the same capsules after a definite interval, and thus scratch each capsule four to eight times. After all the opium has been removed, the capsules are cut off and dried. The seeds are taken out and sold for oil, and the empty capsules find a ready sale to the druggist.

There is restriction, but no compulsion, put on the opium cultivation; but it is curious that while it is a highly remunerative crop, the cultivators are often averse to taking it up. Debiting the wages of the cultivator, the rent of land, and all other charges, it costs about Rs. 48-4 to cultivate an acre of land with poppy. The advance is given free of interest, and comes in opportunely at a time when the cultivator requires money. Government purchases the opium at from Rs. 4-8 to Rs. 6 a seer, and each acre yields from 8 to 10 seers of opium. At the same time some 20 seers of petals, valued at Rs. 4, and five to six maunds of seeds with the capsules over and above, are obtained from the acre, and these are marketable articles, and, what is no doubt an important consideration, the opportunity is afforded of illegally retaining a small amount of the opium. There is a certain market, and the returns highly remunerative; but in the face of many advantages opium production is not popular, and efforts to extend poppy cultivation have been resisted keenly.

The exports of Opium during the past five years were—

			Cwt.	Rs.
1879-80	...	...	144,630	14,32,33,143
1880-81	...	...	127,484	13,60,01,477
1881-82	...	...	123,913	12,43,21,418
1882-83	...	...	126,789	11,48,13,764
1883-84	...	...	126,585	11,29,44,601

During 1866-67 the value of the exports amounted to Rs. 11,32,60,388. It would appear that the total value of opium exported has not fluctuated much during the past two decades, but has averaged from 14 to 11 crores of rupees. The bulk of opium finds its way to China, but the increased cultivation in Southern and South-Western China has caused a considerable decrease in the amount consigned to Hong-Kong, and a corresponding increase in the exports to the Treaty Ports. Persian opium has also improved greatly in recent years, and being cheaper than the Indian article has begun to have a distinct effect on the market.

An interesting set of opium samples was exhibited in this section of the Economic Court by the Government Opium Factory, Ghazipur.

(7). Indian Hemp—*Cannabis sativa, (Linn.)*

Vern.—*Gánjé-ká pér*, HIND; *Ganjá, bháng*, BENG.; *Ganja-chedi*, TAM.; *Ganjari-chettu*, TEL.; *Bhénbin*, BURM.; *Gulu (seeds), Chet (fibre)*.

The systematic cultivation of the Hemp in Northern India is restricted to the Himálaya and the belt of country lying immediately beneath it, where the plant grows wild. It is rarely grown for its fibre, but is extensively cultivated for the intoxicating drugs (*ganjá*) obtained from the immature female flowers and floral envelopes, (a substance smoked like tobacco) and the extract *bhang* from the leaves, which is macerated in water and made into a drink. Both these substances are intoxicating.

Messrs. Duthie and Fuller, writing of the Himálayan tracts within the North-West Provinces, say that the seed is not uncommonly roasted and eaten by the hill-men, and that occasionally oil is expressed from it, and the oil cake given to cattle. Dr. Stewart writes that on the Sutlej the seeds are roasted and eaten in small quantities with wheat.

While the products of this plant are largely used in India, there is apparently no export trade.

ETHNOLOGY.

The ETHNOLOGICAL OBJECTS shown consisted of an exceedingly valuable collection intended to illustrate the hill tribes of Chutia Nagpur. This was prepared by Mr. W. H. P. Driver, of Ranchi, who took a very great interest in the work and contributed, along with the Ethnological objects, a valuable collection of the cultivated and wild plants used economically by these tribes. Through Mr. Driver's assistance life-sized clay figures of a Birhor Kól, a Larka Kól, a Mundas Kól, and a Santal were constructed, and also a Gónd from the mountains bordering on the Central Provinces.

SECTION IV.—MEDICINAL PRODUCTS, DRUGS, AND CHEMICALS.

The third arch was decorated with a large assortment of native musical instruments, of which the collection shown by his Highness the Maharajah of Benares was much admired. On passing through this arch the visitor found himself in the section of the Court in which the medicinal products, drugs, and chemicals were displayed. On the walls were placed two great medallion-like rosettes of bottles arranged in circles converging forward. Each contained over 300 bottles, designed to bring into a small space a complete collection of the indigenous drugs of Bengal. The collection placed in these bottles was originally prepared

by the Bengal Economic Museum authorities under the special supervision of Dr. Kanni Lal De, C.I.E., of Calcutta. On the walls were arranged the large collection made by Baboo T. N. Mukharji, of the Revenue and Agricultural Department, Government of India, and also the most instructive collections contributed by Dr. W. Dymock, Medical Store-keeper, Bombay, by Dr. Modeen Sheriff, Khan Bahadur, of Madras, by Dr. George Bidie, C.I.E., Madras, and by Mr. J. A. Murray, of Karachi. Amongst these were many little-known drugs which seem likely to afford field for original investigation for some time to come. But we cannot enter into the large question of Indian indigenous drugs. They are fully described in Dr. Watt's Catalogue, Part V. The reader is referred to this work, where information will be found regarding some 1,248 drugs, all supposed to possess medicinal virtues. The indications placed on the marginal numbers of the Catalogue will be found to greatly facilitate further enquiry. All those bearing (*) are products not referred to in the Pharmacopœia of India; those marked (—) are officinal in the Pharmacopœia of India; and those (=) in both the Indian and the British Pharmacopœias; while those without any marks are described in the Indian Pharmacopœia, but are not viewed as officinal.

A most interesting collection of the indigenous poisons of India was specially prepared for the Court by Baboo Taraprasanna Roy, F.C.S., F.I.C., and by Baboo Ram Chundra Mittra, under the supervision of Dr. Warden, Professor of Chemistry, Medical College, Calcutta. In this collection were shown samples of the *sui* or needles prepared from the *rati* seeds (*Abrus precatorius*), which are used criminally in the destruction of cattle. A small tube containing as much cobra poison as would be necessary to poison 22,000 chickens attracted considerable attention.

While, of course, of the immense number of plants used as drugs by the natives of India, a large number are known to be perfectly worthless, still it must be admitted that our ignorance of the properties and uses of the indigenous drugs is scarcely pardonable. It seems highly desirable that the whole subject should be gone into with greater care than has yet been done, both with the view of weeding out the worthless from the good, and of preparing the way for a number of the better class native drugs taking the place of some of the more expensive and imported medicines of Europe. It seems remarkable that so large an amount

of aconite should be collected in Nepal and exported to Europe in order to be reimported into India before it can find its way to the poor people who crowd around our dispensaries. Illustrations of a similar nature might be multiplied indefinitely; *Atropa Belladonna*, the Deadly Night-shade, for example, is a common weed on the Himálaya from Simla to Kashmir, yet every ounce of the drug used in India is imported from Europe, the Indian plant having apparently been entirely overlooked.

Within the past fifteen years the cultivation of Cinchona has become a pronounced success. In placing in the Court a display of tins of the Government Cinchona febrifuge, Dr. George King, Superintendent of the Botanic Gardens, kindly supplied a brief note regarding the condition of this new industry. We take the liberty to reproduce this note:—"The Government Cinchona plantation in Sikkim was begun in 1862, since which time it has been gradually extended, until it now contains 4,700,000 trees. The Cinchonas cultivated are chiefly of the two sorts which yield the red and yellow bark of commerce. Red bark is the produce of the single species—*Cinchona succirubra*. Yellow bark is, however, yielded by the two species known as *calisaya* and *Ledgeriana*. Besides these species there are in the plantation about 300,000 trees of a hybrid Cinchona, which yield an excellent bark.

"The outturn of bark from the plantations amounted last year to 358,000 pounds, bringing the whole outturn, since the plantation began to yield, up to 2,486,000 pounds. Almost the whole of this large quantity of bark has been manufactured on the plantation into Cinchona febrifuge—a medicine which has proved an excellent cure for the malarious fever so common in all tropical countries, and the low price of which puts it within reach of the poorest. During the past nine years about 55,000 pounds of this medicine have been consumed in India."

We cannot enlarge upon this subject, and must be contented with what has already been said. In concluding this brief notice, we may review, however, the first few pages of the Catalogue in order to show the reader how much has still to be done before we can be supposed to possess even an approximately complete knowledge of the subject of the indigenous drugs of India:—

(1) *Abroma augusta*, (*Linn.*)—The *ulatkambal*, recommended as an emmenagogue.

(2) *Abrus precatorius*, (*Linn.*)—The *ganja* or the plant which yields the *ratti* seeds. The roots and leaves are viewed as a feeble substitute for liquorice. A powder of the seeds is said to be useful in the treatment of skin disease. This is also recommended for pannus and granular eyelids, producing healthy purulent ophthalmia.

(3) *Acacia Catechu*, (*Willd.*).—The extract Catechu, a well-known astringent medicine, official in America, taking the place of Gambier of the British and of the Indian Pharmacopœias. The better qualities might fairly well be used in place of imported Gambier.

(4) *Acalypha indica*, (*Linn.*)—The *kuppi* or *muktajhuri* is an emetic and mild purgative, also anthelmintic. Mixed with common salt, the leaves are also applied externally in the treatment of scabies. By many writers high merit is claimed for this drug as an emetic. Deputy Surgeon-General George Bidie, C.I.E., Madras, says: "The expressed juice of the leaves is in great repute, wherever the plant grows, as an emetic for children, and is safe, certain, and speedy in its action. Like Ipecacuanha, it seems to have little tendency to act on the bowels or to depress the vital powders, and it decidedly increases the secretion of the pulmonary organs." This drug is much used by Mohammedan practitioners in acute mania. The juice of the fresh leaves mixed with lime is applied topically in painful rheumatic affections.

(5) *Achillea millefolium*, (*Linn.*) — The Milfoil or Yarrow; the *rojamari* of Bombay, or *biranjasif* of Cutch. Stewart says this is the *momúdrú chopándiga* of Kashmir and the *bú maderán* of Afghanistan.

A common wild plant found on the Himalaya at an altitude of 7,000 to 10,000 feet. Formerly it enjoyed in Europe the reputation of being a vulnerary, and was given internally for the suppression of hœmorrhage and profuse mucous discharges. It was employed also in intermittents, and as an antispasmodic in flatulent, colic, and nervous affections. Within recent years it has been gaining ground as a domestic medicine, especially in America, and it seems desirable to make the properties of this common plant known to the natives of India.

(6) *Achyranthes aspera*, (*Linn.*)—The prickly Chaff-flower or *apáng*. The whole plant is astringent and diuretic, administered in the form of a decoction. Drs. Cornish, Bidie, and others agree in regarding this as a useful diuretic in the treatment of dropsy.

(7) *Aconitum ferox*, (*Wall.*)—Indian or Nepal Aconite.

(8) *Aconitum heterophyllum*, (*Wall*).—This is the *atis*, the root of which is a pleasant bitter, a mild antiperiodic, aphrodisiac, and tonic, useful in checking diarrhœa.

(8) *Aconitum Napellus*, (*Linn.*)—The common European Monk's-hood. The roots are largely imported into India, while the plant is common on the Himálaya. In all probability the so-called Indian or Nepal Aconite is a mixture of *Aconitum ferox* and of this species, if not of one or two others. The whole subject of Indian Aconite is in a state of the utmost confusion.

(9) *Acorus Calamus*, (*Linn.*)—The Sweet-flag or *bach*. This is considered emetic in large doses, and carminative and stomachic in small. It is said by Dr. Moodeen Sheriff to be one of the few indigenous drugs which act efficiently as emetics in small doses—thirty grains.

(10) *Actæa spicata*, (*Linn.*)—The Baneberry. Within recent years this drug has gained a renewed reputation in the treatment of nervous diseases, rheumatic fever, chorea, and lumbago. The plant is common on the temperate Himálaya, but is unknown as a drug to the natives of India.

(10) *Adenanthera pavonina*, (*Linn.*)—The *rakta kanchan*, sometimes called Red-wood. The powdered seeds make a useful external application, hastening suppuration.

(11) *Adhatoda Vasica*, (*Nees.*)—A drug highly spoken of in the treatment of asthma and all forms of coughs.

(12) *Ægle Marmelos*, (*Corr.*)—The Bael fruit. The unripe fruit is an astringent prescribed in diarrhœa and dysentery with debility of the mucous membrane, often proving effectual in chronic cases, when all other medicines have failed. The ripe fruit is aromatic, cooling, laxative, good for simple dyspepsia. The root is given in intermittent fevers, and the leaves are made into poultices.

(13) *Aloë vera*, (*Linn.*)—The Barbados aloes. There are two primary forms of this plant met with in cultivation in India, and in some parts of the country quite naturalized.

1st Var. littoralis.—The *chhótá-rakus-puttah* or *chhotá-kanvar*. This is quite naturalized on the coast of the Madras presidency.

2nd Var. officinalis.—The *kumárí* or *kanvár*. The most powerful evidence has repeatedly been recorded in favour of Aloes prepared in India as compared with much of the imported article, but unfortunately the preparation of the drug at the present day cannot be regarded as more than of a local interest.

(14) *Alstonia scholaris*, (*R. Br.*)—The bark of this tree contains a bitter principle known as *ditain*, which has been reported to be equal in efficacy to quinine, while free from the secondary symptoms of that drug. It is largely used in the hospitals in Manilla, but apparently this active principle has never been experimented with in India. The tree is common, wild and cultivated, all over the country.

(15) *Andrographis paniculata*, (*Nees.*)—The *creat* or *kálmeg;* a most useful bitter tonic and stomachic and a common domestic remedy.

(16) *Andropogon muricatus*, (*Retz.*)—The *khas-khas*. An infusion of the roots is given as a febrifuge and a powder in bilious complaints. It is a stimulant, diaphoretic, stomachic, and refrigerant.

(17) *Andropogon Schœnanthus*, (*Linn.*)—Rusa grass-oil is used as a liniment in chronic rheumatism and neuralgia, and is believed to cure baldness.

(18) *Anisomeles malabarica*, (*R. Br.*)—The *chodhara* of Bombay. Dr. Dimock says few plants are held in higher esteem than this, or are more frequently employed in native practice. An infusion of the leaves is commonly used in affections of the stomach and bowels, catarrhal affections, and intermittent fevers.

(19) *Areca Catechu*, (*Linn.*)—The betel-nut or *supári*. The young nuts are said to possess astringent properties. They contain a large proportion of tannic and gallic acids. In powder, this drug is recommended in diarrhœa arising from debility. The powder of the burnt nut has been highly spoken of as a dentifrice.

(20) *Argemone mexicana*, (*Linn.*)—The Mexican poppy. The yellow juice is used in dropsy, jaundice, and cutaneous affections. It is also said to be diuretic, and in the West Indies is used as a substitute for ipecacuanha. The leaves in infusion are regarded as diuretic. The seeds and the oil prepared from them are by some authors regarded as a valualbe aperient in dysentery.

(21) *Argyreia speciosa*, (*Sweet.*)—The Elephant creeper. The leaves are used for emollient poultices for wounds and skin diseases.

(22) *Artemisia Absinthium*, (*Linn.*)—The Wormwood or Absinthe. A common plant in Kashmir.

(23) *Artemisia maritima*, (*Linn.*)—Worm-seed or Santonica. The *shib* common on the Western Himálaya from Kumaon to Kashmir.

(24) *Artemisia vulgaris*, (*Linn.*)—The Indian Wormwood or Fleabane. Common everywhere throughout the mountain tracts of India at altitudes from 5,000 to 12,000 feet above the level of the sea.

(25) *Atropa Belladonna*, (*Linn.*)—Deadly Night-shade. Common from Simla to Kashmir.

Our foreign trade in drugs is not very extensive, the most important substance being Cinchona bark, and Quinine our most valuable imported drug. During 1883-84 and the preceding four years the exports under this head were—

Exports.					Rs.
1879-80	...	...	...	...	16,59,373
1880-81	...	...	...	...	11,59,659
1881-82	...	...	...	...	8,66,165
1882-83	...	...	...	...	12,51,361
1883-84	...	...	...	...	8,23,973

Of Cinchona bark 306,419 cwt., valued at Rs. 4,06,453, exported in 1883-84, and 641,608 cwt., valued at Rs. 7,90,861, in 1882-83.

Our imports during that period were—

Imports.					Rs.
1879-80	...	...	...	...	31,60,746
1880-81	...	...	...	...	32,75,407
1881-82	...	...	...	...	38,19,080
1882-83	...	...	...	...	39,16,727
1883-84	...	...	...	...	36,28,443

In 1883-84 we imported quinine to the value of Rs. 7,25,227, and Camphor, then Cassia Lignea, and Asafœtida, are next in importance.

ETHNOLOGY.

The majority of the clay figures of Assam hill tribes were arranged in this section. As these were constructed during the Exhibition, they were only shown towards the close of the show. But for the great interest taken in this matter by the Assam Government, it would have been impossible to procure representatives of most of these tribes; but

while patiently submitting to the process of being modelled, these people must have returned to their mountain homes greatly pleased with their visit to Calcutta. Mr. R. B. McCabe, Deputy Commissioner, Naga Hills, brought to Calcutta some half a dozen Angami and Lota Nagas, and at the same time presented most liberally a magnificent collection of the domestic appliances, agricultural implements, and articles of personal adornment and of sport and warfare used by these tribes. Mr. J. F. Needham brought an interesting group of Chulikata and Digaru Mishmis, Abors, Kamptis, and Singphos, most of whom were carefully modelled. From the Deputy Commissioner, North Lakhimpur, came the curiously tatooed Nagas of Upper Assam, as also Dafflas and Miris; while the Deputy Commissioner of Nowgong sent a group of timid Mikirs. The Assam Government also most liberally presented the Exhibition with a large collection of objects of Ethnological interest connected with the hill tribes.

In a glass case against the wall was shown a large and curious collection of Madras Ethnological objects contributed by Deputy Surgeon General George Bidie, C.I.E., the officer in charge of the Madras Court. Amongst these may be mentioned Mr. J. W. Hill's Coorg collection; Mr. F. Brandt's collection of *Toda*, and also Mrs. S. Carmichael's Toda, Ethnological objects. There were in addition several other most instructive collections, but we must refer the reader to the Catalogue of Madras exhibits in volume II, where an interesting account of these will be found.

SECTION V.—DYES, TANS, MORDANTS, AND PIGMENTS.

The fourth of the series of triumphal arches separated this section from the drugs. The index collection of samples, as in the other sections of the Court, was displayed against the walls in tin cases. The Catalogue, Part II, describing the 280 objects which were thrown into this section, will be found to contain much that is interesting and new. The rage for aniline cheap dyes has nearly passed over the world, and the demand for the more delicate and permanent vegetable colours begun to re-establish itself. The future should place India in a much more powerful position as a source of vegetable dyes than she has ever been before; and it seems highly desirable that every effort should be made to check the extended use of aniline dyes in the manufacture

of Indian fabrics, and to re-establish the vegetable colours. There cannot be a doubt but that the use of aniline dyes has already begun to lessen the public appreciation for Indian carpets and other expensive fabrics. "One had only to compare the gorgeously brilliant aniline-dyed carpets, one or two of which were exhibited in the Hyderabad Court, with the delicately-coloured, soft, and graceful carpets which adorned most of the other provincial Courts, to realize the importance of impressing upon our manufacturers the vastly superior character of the indigenous colouring agents. It is quite true, however, that cheapness is a criterion with the mass of people in India. The simple garment of the poorer people may be dyed with aniline one colour one month and another the next, saving in all probability the *dhobi's* fee, while giving the semblance of a richly supplied wardrobe. There is no denying, therefore, that the demand for aniline dyes is bound to go on increasing in India. But while this is so, it is absolutely necessary that manufacturers be warned against the use of these fleeting, though cheap and brilliant colours, in the preparation of rich and costly articles. If this is not attended to, European manufacturers will imitate Indian carpets, *phulkaris*, and chintzes; and if the idea spreads that those of Indian manufacture cannot be depended on for durability of colour, the trade that seems in the ascendant may soon disappear from India. The advance of aniline may be expected to have one certain consequence, namely, the destruction of that most important knowledge—the knowledge which the simple-minded aborigines possess of their indigenous dye-stuffs. If anything more than another has come to light through Dr. Watt's efforts, it has been the fact that one hill tribe knows how to extract most interesting dyes from plants also common on the hill tracts inhabited by other races who are wholly ignorant of these properties, while the latter possess an equally marvellous local knowledge regarding certain other plants. *Rubia sikkimensis* obtains its specific name from its prevalence in Sikkim; but while a large and valuable trade is done in the less abundant madder or *manjit* (*Rubia cordifolia*), the hill tribes of Sikkim do not seem to know that the Khasia, the Garo, and the Naga, obtain their red dye from *Rubia sikkimensis*, and that they do not use the equally plentiful *Rubia cordifolia*." (*The Pioneer.*)

The reader is referred to the account we have already given of the reputed green dye obtained from *Vigna Catiang*

(*see* page 22 of this report). The leaves of *Baccaurea sapida* are also said to yield a green dye, and the same is reported of *Hedyotis capitellata* and of *Jatropha glandulifera*. For many years the green indigo of China, *Lüh-kaon* was attributed to two species of Buckthorn—*Rhamnus utilis* and *R. Chlorophorus* (see *Smith's Dict. Economic Plants*). Mr. D. Hanbury, in his admirable "Science Papers," upon the authority of the Revd. J. Edkins, informs us that the green indigo of China is prepared from two varieties of the plant known as *Luh chæ* (lo kao) or green plant. One variety grows wild, and is called the white; the other is cultivated, and known as the yellow. The dye is extracted by boiling the two barks. This is done chiefly at Kea-hing and Ningpo and at Hoonan. Mr. Christopher Thomas Gardner, in his Commercial Report of the Trade of Ichang for 1883, says that two green dyes are made from the barks of the *Rhamnus* (*sp.* ?) and of *Cassia*. It is, however, extremely doubtful if any single plant will give a green dye, and careful enquiry seems necessary. For further information consult Crookes' Handbook on Dyeing, pp. 428-435.

Strobilanthes flaccidifolius, (*Nees.*) — The *Rúm* dye of Assam: *Khúma*, *khúm*, Manipur.

This exceedingly valuable dye was first made known by Griffith who met with it during one of his Assam explorations. The plant is pretty generally cultivated by the hill tribes of the eastern frontier of India, and of North-Western China. It was called *Ruellia indigotica* by Balfour, as he explains, in the absence of any better name. It grows freely on the plains of Manipur, in a climate not very different from that of many parts of Bengal, Behar, or the North-West Provinces, and might be extensively cultivated in Assam. It does not require the flooding which is necessary for the early growth of the Bengal indigo plant, and is therefore not exposed to the danger of having its colour extracted during an exceptionally rainy season. In fact in many respects it possesses properties eminently suited for a profitable indigo crop, and in China at least the dye is pronounced finer than that obtained from any other plant. It is propogated freely by cuttings, yields prunings twice or three times a year, and is perennial. It would give little or no anxiety to the planter, and if not sufficiently remunerative to take the place of the Bengal indigo plant, it seems natural to expect that they might with great advantage be cultivated together. The *rúm*

would flourish on the higher dry lands in the plantation, yielding its crop probably in the cold and the hot season, while the ordinary indigo might be grown in the low flooded lands, and occupy the attention of the planter during the rest of the year. At present an indigo factory is idle for more than half the year, but with *Strobilanthes flaccidifolius* this need not be so.

In Manipur the *khùma* is largely cultivated, and the dye is extracted for home use. Nearly every owner of a farm cultivates a small plot of it and prepares his own dye. The twigs, about a foot long, are twice or three times a year plucked and deposited in large earthen pots filled with water. In these primitive vats they are left for the required time, and when ready the decoction, of a greenish colour, is poured into another pot and violently shaken or stirred with a few twigs. A little lime is generally added, and when the transformation of green into blue indigo has been effected, the liquid is poured into a small earthen vessel and boiled down, more and more being added until, from the evaporation of the water, the vessel is filled with the dye-stuff. A little lime is deposited in the mouth of the vessel, which is thereafter placed in the sun to complete the drying of the dye. In this form it is stored for family use or sold in the market. The dye is used in combination with turmeric to produce shades of green; with lime and turmeric, browns and almost reds; with lime alone, deep blue-black; with safflower, purple; and so on as with ordinary combinations.

DYE AUXILIARIES.

One of the most curious and interesting features of Indian dyes and processes of dyeing is the number of special and peculiar dye auxiliaries. These either serve the part of mordants and dye-weights, or contain an acid or astringent principle which changes the colour and produces greater brilliancy. This subject, with the exception of the practice of weighting certain fabrics with gum, is almost quite unknown to the European dyer; and there seems therefore no more fruitful field for original research than that of the dye auxiliaries of India. Under the head of *Vigna Catiang* (page 268) we have already had occasion to allude to one of these dye auxiliaries. The fruits of *Garcinia pedunculata* were first identified in connection with an interesting collection of Manipur dyes and dye-stuffs contributed by Major Trotter, Officiating Political Agent with his Highness

the Maharajah of Manipur. This is known as *heibung* in Manipur and *thekaru-tenga* in the Khampti country. From Major Trotter's communication it appeared that the *heibung* fruit was supposed by the Manipuris to fix the pink safflower or dye from *Carthamus tinctorius*. It has the power of improving and deepening the colour; but it now appears doubtful how far it has also the power of fixing this beautiful but fleeting colour. The astringent fruits are, however, largely used by most of the Assam hill tribes in connection with many other dyes besides safflower. Perhaps no dye auxiliary is more extensively employed than the bark of the *lodh*—*Symplocos racemosa*. This practice prevails throughout India, different species of *Symplocos* being used by the most remote and dissimilar hill tribes. It is not quite clear as to the particular function which in some instances it serves, but it has the reputation of deepening in one case and making more brilliant in another popular and well-known dyes. We have already alluded to *Rubia sikkimensis*; but in connection with the peculiar action of the dye auxiliaries, we may reproduce here Dr. Watt's account of his discovery of this new dye-stuff.

Rubia sikkimensis, (*Kurz.*)

"*Diagnostic characters.*—An extensive sub-woody climber; *branches* retrorsely scabrid; *leaves* 3 to 6 by 1 to 2 inches, *sessile, or nearly so*, four in the whorl, elliptic or ovate lanceolate, 3 rarely 5, costate.

"This is the largest and the most handsome species in the genus, growing along the ground or over bushes and small trees, with branches often three to four yards long, and the whorls of leaves as much as a foot apart. It makes its appearance in Sikkim, but attains its greatest development in the Khasia and Naga Hills, where it is perhaps the most common species. Apparently the Lepchas of Sikkim do not know that this plant yields madder dye; but I suspect that the thick heavy roots (many times thicker than the roots and twigs of *R. cordifolia*) which are sold in the bazars, belong largely to this species, though probably used as an adulterant. This idea seems to be strengthened by the fact that until 1874 the plant was not named, or even known to exist. Specimens had of course been collected, but they escaped attention, having remained for many years in the larger Herbaria unpublished. In the Naga Hills and in Manipur this species alone supplies the brilliant red dye used by the hill tribes to colour their cloths, hair, decorations for spears, shields, and earrings, rings, &c., as well as to colour their cane and bamboo plaited-work.

"The process of extracting the dye is curious. It was shown to me after considerable trouble. A woman came one morning to the Residency, Manipur, bringing with her the following things:—

1*st.*—Two or three bundles of the root and stem of *R. sikkimensis*, (*Kurz.*).

2nd.—A slab of the bark of *Quercus fenestrata, (Roxb.)*

3rd.—A bundle of twigs and leaves of *Symplocos racemosa, (Roxb.)*

4th.—A packet of seeds and a specimen of the plant yielding these, which I identified as *Leucas cephalotes, (Spreng)*—a labiate plant common in fields throughout India and in Bengal. I have been told that this plant yields an oil used for illuminating purposes. I can, however, find no mention of this oil in works on Indian Economic Botany, and I shall be greatly pleased to learn if other observers have noted this property, as it seems to be intimately associated with the separation of the madder from *R. sikkimensis*. In Bengal *Leucas cephalotes* is generally known as *bura-hul-khusa*, and in Madras as *gurosatumi*, Tel. (*see Roxb. Fl. Ind., Ed. C.B.C., page* 461, *Phlomis cephalotes, Kon.*) *See* also the concluding paragraph, where *Perilla ocimoides* is used in place of *Leucas*.

"*5th.*—Two skeins of cotton thread, one of which was of a yellow colour, and had been prepared beforehand by a process which I was to see applied to the second one. It had been steeped in some mordant or metallic salt.

6th.—Two earthen vessels.

7th.—A small basket.

"I was told that it was necessary first to prepare the second skein of cotton, so as to give it time to dry in order that it also might, if possible, be dyed. The woman sat down and set fire to the bundle of twigs and leaves of *Symplocos racemosa*. When completely burned to ashes, these were carefully collected and placed in the corner of the basket, and a little water sprinkled over and allowed to soak for a few minutes, then more water was sprinkled, until ultimately a yellowish liquid began to strain through and trickle into one of the earthen vessels. This liquid tasted bitter, and no doubt contained some alkali salt, which I have not as yet had time to identify chemically. When enough liquid had thus been obtained, the second or unprepared skein of cotton was placed in the vessel and boiled for some time; after which it was removed, wrung out, and hung up to dry.

"The second process was then proceeded with. The woman and her assistants commenced to pound the chips of *Rubia*, using about equal proportions of root and stem. When this had been done the powder was mixed (about one-fourth as much as powdered madder) with a handful of the seeds of *Leucas* and intimately combined and rubbed together by the hand on a stone. This mixture was then placed on the other earthen vessel and boiled with about three proportions of water to one of the mixed powder. When boiling, the prepared skein of cotton was plunged into the solution, which was now of a deep red colour. It was turned round and round in the boiling liquid upon the extremity of a small twig held in the hand, and when dyed to the required depth it was removed and allowed to strain off the surplus liquid. Thereafter it was washed several times and hung out to dry.

"I asked what was the use of the bark (*Oak* bark No. 2), and was told that it was for deepening the colour from red to brown of the darkest possible shade. A few pieces were thrown in, and the skein of cotton prepared in my presence was treated as before, when a beautiful red-brown colour was the result.

"I have gone into detail on the process of dyeing from *R. sikkimensis* because I am assured by many distinguished authorities that it has been reported as not yielding madder dye, and because the process described seems to be known to the hill tribes of Assam and the Naga Hills only. I trust that this preliminary account may suggest the lines upon which a more thorough investigation should be instituted by the authorities in Assam, and I shall have much pleasure in identifying the auxiliaries used in other parts of the province, if I am favoured with specimens. This would enable me to perfect and complete the account of the Naga madder.

"I suspect that the bulk of the madder plant of Assam will be found to be derived from *R. sikkimensis* instead of from *R. cordifolia*, and that a considerable proportion of the madder exported from Sikkim is derived from this plant also.

"Since writing the above, I have had the pleasure to receive from my friend Major Trotter, Political Agent, Manipur, a most interesting account of the dyes and process of dyeing in practice in Manipur. I wrote specially asking that he should investigate the subject of the beautiful madder red in order to confirm my own observations. Greatly to my delight, I had the pleasure to receive a most interesting series of specimens, amongst which were some 30 good specimens of *Rubia sikkimensis*, putting an end to any doubt as to this plant being the source of the Naga red instead of the equally abundant *R. cordifolia*. Instead of *Leucas cephalotes*, however, Major Trotter sends me the seeds of *Perilla ocimoides*, (*Linn.*) another *Labiatæ*, as the dye auxiliary. Perhaps both plants are used, the action being similar to the use of oils in the extraction of other dyes, such as safflower."

The more common dye-auxiliaries are Myrabolams; the *Bâbûl* bark (*Acacia arabica*); the Tamarind; the dried unripe Mango; the Corambola; the Pomegranate, and the fruit of *Randia dumetorum* (the *mainphal*). There are also a large number of earths and crude salts used as mordants, or sometimes as auxiliaries, to assist the extraction of the colour from the dye-stuff. Amongst these may be mentioned lime, alkaline ashes (potash) from plants, *reh* (an impure carbonate and sulphate of soda, found as an efflorescence), *rassi*, *sajji*, saltpetre, alum, muriate of tin, sulphate of iron, and a few others of less importance.

TRADE RETURNS IN DYES.

The value of the exports in dyes and tans during the past five years was as follows:—

	Rs.
1879-80	3,23,78,321
1880-81	3,80,64,188
1881-82	4,78,96,893
1882-83	4,16,60,377
1883-84	4,90,75,636

By far the most important substance under this section is indigo, as much as Rs. 4,64,09,906 worth being exported in 1883-84.

Our imports of dyes and tans are comparatively insignificant compared with the exports. During the past five years they were :—

	Rs.
1879-80	14,52,344
1880-81	22,03,537
1881-82	17,14,906
1882-83	20,66,395
1883-84	25,14,222

Aniline dyes constitute the most important substances under this class: 8,094,006 oz. of aniline dye, valued at Rs. 11,03,240, were imported during 1883-84.

An exceedingly interesting collection of Panjáb dyes was exhibited by Mr. H. W. Steel, Deputy Commissioner, Rohtak, which will be found fully described in the Catalogue of the Panjáb exhibits in Volume II. Major Trotter, Officiating Political Agent, Manipur, contributed a carefully-prepared collection of Manipur dyes. In this Court was also shown a large and instructive series of dyed wool used in carpet making. This was prepared by the Jail authorities at the request of the Government of India, Revenue and Agriculture Department.

The following classification of the more important Indian dyes may be found useful :—

I.—RED DYES.

(1) *Cæsalpinia Sappan*, (*Linn.*)—The Sappan wood. This red dye is obtained by simply steeping the wood in water; it is, however, not permanent. Largely used in calico-printing; the colour is intensified by alkalis.

(2) *Carthamus tinctorius*, (*Linn.*)—The Safflower. The flowers of this plant give an unimportant yellow dye by being powdered and steeped in water, which is, however, rejected as useless, or used only as a base colour before red. The red colour is much more important; it is extracted after the yellow dye has been removed, by adding a little alkali to the powdered flowers. Safflower dye is extensively used by the natives of India in dyeing their cloths in all shades of red, from light flesh-colour to deep-purple. It is not fast.

(3) *Coccus lacca*.—The Lac dye. Crude lac freshly gathered is known as stick lac; from this the resin is separated, by being pounded, and steeped in water. The colouring matter imparted to the water is solidified by evaporation, and constitutes lac dye. It yields a deep brilliant red colour, chiefly used in staining leather and wool.

(4) *Coccus cacti*.—The Cochineal is chiefly imported from the Canary Islands and Teneriffe and from America by way of England. It is now gathered to a small extent from the prickly pear plant (*Opuntia*

Dillenii), grown in the Panjáb, Rajputana, and South India. It yields a brilliant red dye, but, except in confectionery, it is not much used. The imports seem to be declining; in 1880-81 they were nearly seven lakhs of rupees, but during 1883-84 they were only 1¼ lakhs.

(5) *Mallotus philippinensis*, (*Mull.*) — *The Kemala.*—A red dye is obtained from the epidermal glands of the fruit, the powder being formed when the fruit becomes dry or over ripe. It is used in dyeing silk and wool, and does not require a mordant. It imparts a brilliant yellow to silk. The *Wars* dye of Africa, formerly supposed to be obtained from this plant, is now known to be collected from the pods of a pea—*Flemingia congesta*.

(6) *Morinda* several species.—The roots of the different species of *Morinda* and their varieties, of which the most important are *Morinda angustifolia*, (*Roxb.*), *Morinda citrifolia*, (*Linn.*), and *Morinda tinctoria*, (*Linn.*), all yield valuable red dyes, which are extensively used in Upper India in dyeing the red cloths called *salu* and *kharua*.

(7) *Oldenlandia umbellata*, (*Linn.*)—The Chay root. The root-bark of this plant gives a beautiful red dye, formerly largely used in Madras for dyeing the handkerchiefs, for which that town was once famous. This colour is produced with alum as a mordant and is fast.

(8) *Pterocarpus Santalinus*, (*Linn.*)—The Red Sanders or Sandal-wood. This wood, largely exported from Madras, contains a colouring principle called "santalin." It yields a beautiful salmon-pink colour.

(9) *Rubia cordifolia*, (*Linn.*)—The Indian Madder. There are two well-marked varieties of this climber:—

(a) cordifolia proper.—This is a form chiefly met in the Himálaya appearing in the Chenab and extending eastward to Sikkim and Bhutan, Khasia Hills, Naga Hills, Burma, South India, and Ceylon. Leaves four in a whorl, more or less cordate and petioles not more than one inch long; generally five costate—rarely three; veins impressed; surface rough or hispid. This form is regarded by the hill tribes in Assam as yielding an inferior quality of dye, although it is the form in general use in India.

(b) khasiyana, (*Watt, MS*).—Leaves generally 1 to 1½ or 2 inches long; three costate—rarely five, often almost pinnately veined; not hispid; veins not impressed. This form is said to be richer in madder dye than the preceding. It is occasionally met with in Sikkim, but attains its greatest development in the Khasia and Naga Hills. It is, however, not met with west of Sikkim. This is the form used by the Khasias.

(10) *Rubia tinctorium*, (*Linn.*)—This species is not much known in India, but is cultivated in the Western Himálaya and in Afghanistan.

(11) *Rubia sikkimensis*, (*Kurz.*)—Has already been discussed (*see* page 325).

(12) *Woodfordia floribunda*, (*R. Br.*)—The flowers yield a red dye occasionally used in colouring silk.

II.—YELLOW DYES.

(1) *Bixa Orellana*, (*Linn.*)—The Arnotto dye. This plant was originally a native of America, but has now been thoroughly acclimatized in India. The pulp from the seeds gives a beautiful flesh-colour,

used in dyeing silk. It is altered by certain combinations into orange, deep orange, or red, the brighter orange and red colours being obtained in combination with the red powder of *Mallotus philippinensis*.

(2) *Berberis*.—Various species.

(3) *Butea frondosa*, (*Roxb.*) *B. superba*, (*Roxb.*)—The dried flowers, called *Tesu*, are used as a yellow dye, this being extracted by simply steeping or boiling in water. The colour is not fast.

(4) *Coscinium fenestratum*, (*Colebrooke*).—The *jar-ki-huldi* or *haldi-gach*. The wood of this climber yields a good yellow.

(5) *Curcuma longa*, (*Roxb.*)—The Turmeric. The rhizomes of this plant yield a valuable yellow dye, which, with alkalis, changes into deep red.

(6) *Lawsonia alba*, (*Lam.*)—The Henna or *Mendi* yields an orange yellow.

(7) *Ochres*.—A yellow ochre, called *Multani mattí*, is extensively used in colouring tents and floor-cloths.

(8) *Peori dye*.—This yellow colour is prepared from the urine of cows fed on mango leaves.

(9) *Plecospermum spinosum*, (*Trecul.*)—The *gumbengfong* of Darjeeling.

(10) *Symplocos*.—Various species yield a faint yellow dye. The barks of these plants are, however, chiefly used as dye auxiliaries.

III.—BLUE DYES.

(1) *Cicer arietinum*, (*Linn.*)—The Gram. The leaves of this plant are said to yield indigo.

(2) *Indigofera tinctoria*, (*Linn.*)—Indigo is obtained from this plant. It is extensively cultivated in Bengal and the North-West Provinces. The manufacture of the dye is one of the most important industries of India. The exports for the year 1883-84 were valued at Rs. 4,64,09,906, which was 8·6 per cent. in excess of the value of the exports during 1882-83. The manufacture and trade in this dye are too well known to require any further notice in this report.

(3) *Isatis tinctoria*, (*Linn.*)—The Woad or Dyer's Weed—a member of the cabbage family. This plant is common in Western Thibet. It yields indigo, and for this purpose is said to be cultivated in Afghanistan.

(4) *Marsdenia tinctoria*, (*R. Br.*)—The plant yields a blue dye resembling indigo. This is prepared by the hill tribes in many parts of India, as for example, in Sikkim. An allied plant, *Gymnema tigens*, also yields a blue dye.

(5) *Strobilanthes flaccidifolius*, (*Nees.*)—This is the Indigo plant of Assam and the eastern mountain tracts extending into China (*see* page 323).

(6) *Wrightia tinctoria*, (*R. Br.*)—The leaves yield an indigo-blue used along with the seeds of *Cassia Tora*. This is said to be prepared in South India.

There are other blue or indigo-yielding plants known in India and in other parts of the world, one or two of which have assumed almost commercial importance. In China, indigo is prepared from three distinct plants, according to the climate of the region where it is cultivated:—*Isatis tinctoria* at Shanghai and Chusan, *Polygonum tinctorium*

at Ichang, and *Strobilanthes flaccidifolius* largely in the province of Chekiang. (*See* Fortune's residence among the Chinese, page 189.) In Egypt *Tephrosia Apollinea*, and on the Niger *Tephrosia toxicaria*, (plants allied to the *Indigofera tinctoria* of India), yield indigo. In the West Indies *Randia aculeata* is grown for this purpose, affording a good quality of Indigo.

IV.—BROWN OR BLACK DYES.

Almost all the astringent barks, fruits, &c., yield blacks with or without sulphate of iron. The most important of these, however, are—(1) the species of *Terminalia* yielding astringent nuts or Myrabolams; (2) the Babul bark—*Acacia arabica* (*Willd*); (3) *Acacia Catechu* (*Willd.*) bark and extract; (4) *Areca Catechu*, (*Linn.*) or Betel-nut; (5) *Diospyros Embryopteris* (*Pers.*), bark and fruit; (6) *Eugenia Jambolana* (*Lam.*) bark; (7) *Mimusops Elengi*, (*Linn*) bark; (8) *Phyllanthus Emblica*, (*Linn.*), the Emblic Myrobalam; (9) *Semicarpus Anacardium* (*Linn.*), the fruit; Oak barks; Divi-divi pods, &c., &c.

We must refer the reader to the Official Catalogue for an account of the Indian tanning materials.

SECTION VI.—GUMS AND RESINS.

This was reached by passing under the fifth arch, upon which were displayed in fanciful designs small pieces of cloth to illustrate the dyes of India.

The Gums and Resins were briefly described in Part I of the Official Catalogue, 297 being enumerated. This was made to include, in addition to gums, gum-resins and resins, all inspissated saps, such as Caoutchouc and Guttapercha, and resinous extracts, such as Lac, Catechu, and Gambier, but not Opium or other narcotics.

We must refer the reader to the Catalogue for a detailed account of these substances, since, with the exception of lac, they constitute an insignificant item in the export trade of India. The following are the principal commercial substances included in this section, giving the exports from India for the past five years:—

	1879-80.	1880-81.	1881-82.	1882-83.	1883-84.
	Rs.	Rs.	Rs.	Rs.	Rs.
Caoutchouc ...	10,31,394	10,61,686	10,88,426	12,59,165	11,33,586
Lac—button, shell, stick, &c.	34,88,391	56,53,001	71,03,325	69,44,052	55,53,306
Catechu	28,13,994	42,6,6415	25,30,840	30,52,434	35,32,000
Other gums and resins	18,225	11,814	15,056	14,371	31,808
Total ...	73,70,629	1,10,15,605	1,07,48,411	1,12,95,901	1,02,53,793

ETHNOLOGY.

In this section a member of clay figures were shown intended to illustrate the tribes of Upper India. The subjects modelled were obtained from the regiments stationed in or near Calcutta,—there was a Hindu Rajput, a Pathan, a Sikh, an Ahir of Rohilcand, and a Dogra. A number of interesting Ethnological objects from the Panjáb contributed by Mr. J. L. Kipling were also placed in this section of the Court.

On a stand in the middle of this section were also displayed the Bombay Ethnological curiosities, including Mr. E. T. Leith's exceedingly interesting collections and Mr. T. D. Mackenzie's collection from Thana; by the Ahmednagar Municipality; by Messrs. Cursetji and Sons of Ahmednagar, and by the Collector of Karachi. These will be found described in detail in Mr. Gupte's Official Catalogue, and it is therefore not necessary to do more than to take this opportunity to acknowledge the valuable services rendered by Mr. Gupte.

SECTION VII.—FIBRES AND FIBROUS PLANTS.

The last of the series of triumphal arches conducted the visitor from the section devoted to Dyes, Tans, Gums into one of the most interesting divisions of the Court, namely that devoted to Fibres and Fibrous Plants. The collections were described in Part III of the Catalogue, where detailed information will be found regarding 298 fibres. Amongst the more important collective exhibits of fibres that attracted special attention may be mentioned the admirable collections made by the Madras Forest Department, and more particularly the sets contributed by Mr. J. W. Cherry, of Salem, Mr. A. W. Lushington of Kadur, and Mr. A. W. B. Higgens of Cuddappah. Mr. Duthie, Superintendent of the Botanic Gardens, Saharanpur, exhibited a large and most instructive collection, and Babu Luchman Prasad, of Cawnpore, and Babu Amba Dutt, of Almora, also contributed very complete sets of the fibres of the North-West Provinces. An excellent collection of the fibres of Bengal was contributed by the Bengal Forest Department. There were many other extremely valuable samples of fibres too numerous to be mentioned even by name, and for which the reader is referred to Babu T. N. Mukharji's "*List of Raw Products*" in Volume II

for full details of the various collections and names of exhibitors. We propose to discuss here only three of the most important fibres, namely cotton, jute, and silk. The following statement of the imports and exports for the year 1883-84 shows the value of the Indian foreign trade in fibres and textile fabrics, the grand total of which, in round figures, may be said to be £54,000,000 sterling :—

THE TEXTILE INDUSTRIES FOR 1883-84.

		Rs.
Cotton, raw	Exports	14,38,37,278
	Imports	9,95,820
	Total Rs.	14,48,33,098
Cotton, manufactured ...	Exports	2,85,31,710
	Imports	25,10,83,306
	Total Rs.	27,96,15,016
Jute, raw	Exports	4,59,26,353
	Imports	1,267
	Total Rs.	4,59,27,620
Jute, manufactured	Exports	1,33,41,447
	Imports	4,14,491
	Total Rs.	1,37,55,938
Flax and its manufactures ...	Exports	5,457
	Imports	11,15,486
	Total Rs.	11,20,943
Hemp and its manufactures	Exports	6,91,826
	Imports	2,09,335
	Total Rs.	9,01,161
Coir and its manufactures ...	Exports	15,30,629
	Imports	1,06,630
	Total Rs.	16,37,259
Cordage and rope	Exports	4,92,068
	Imports	3,90,584
	Total Rs.	8,82,652
Paper	Exports	1,733
	Imports	37,49,127
	Total Rs.	37,50,860

THE TEXTILE INDUSTRIES FOR 1883-84—*concluded.*

		Rs.
Silk, raw	Exports	62,76,117
	Imports (mostly from China)	96,95,749
	Total Rs.	1,59,71,866
Silk, manufactured	Exports	28,57,336
	Imports	1,20,13,481
	Total Rs.	1,48,70,817
Wool, raw	Exports	75,58,409
	Imports	6,51,368
	Total Rs.	82,09,777
Wool, manufactured	Exports	12,07,003
	Imports	1,21,70,531
	Total Rs.	1,33,77,534
	Grand Total Rs.	54,48,54,541

COTTON.

The value of the exports of cotton for the year 1883-84 greatly exceeded the value of any other article exported from India. They amounted to nearly 17 per cent. of the value of the entire export trade. The following are the quantities and values of the cotton exports for the past five years, taken from Mr. J. E. O'Conor's Review of the Foreign Trade of British India:—

	Cwt.	Rs.
1879-80	3,948,476	11,14,54,528
1880-81	4,541,539	13,24,17,341
1881-82	5,627,453	14,93,59,595
1882-83	6,168,278	16,04,90,174
1883-84	5,979,494	14,38,37,278

The exports for 1883-84 were about 3 per cent. smaller in quantity and 10 per cent. less in value than those for 1882-83. This depression, Mr. O'Conor explains, was due to the reduction in price following on exceptionally large supplies from most cotton-producing countries. At the same time, the continued depression of the cotton manufacturing industry of England augmented the accumulation of stock.

The following analysis of the exports for the year 1883-84 shows the chief markets to which Indian cottons are consigned :—

Presidency from which exported.	Weight in Cwt.	Value in Rs.	Country to which exported.	Weight in Cwt.	Value in Rs.
Bengal	636,038	1,51,54,734	United Kingdom ...	2,698,921	6,42,72,698
Bombay	4,561,634	11,10,11,488	Austria	660,163	1,46,51,063
Sind	69,753	15,14,243	Belgium	458,472	1,11,08,593
Madras	629,845	1,45,00,861	France	668,151	1,62,71,870
British Burmah	81,624	16,75,952	Germany	132,585	31,02,782
			Italy	881,860	2,12,69,187
			China	313,226	74,56,541
			Other countries	228,166	55,13,784
Total ...	5,979,494	14,38,37,278	Total ...	5,979,494	14,38,37,278

It is remarkable how unimportant India is as a supply of cotton for the English market. Out of the whole exports for 1883-84, the Continent imported direct 2,897,420 cwt. and England 2,696,921, but nearly half the amount consigned to England was re-exported again to the Continent of Europe. To the English manufacturer, therefore, Indian cotton is comparatively speaking of secondary importance; Italy offers the largest market.

Interesting exhibits of cotton were shown by Mr. J. B. Fuller, Director of the Agricultural Department, Central Provinces; by the Bombay Government and Chamber of Commerce; by the Government of British Burma; by Major D. G. Pitcher, of the Agricultural Department, North-West Provinces; by Mr. Duthie, Saharanpur; and by the Government of Madras. Excellent samples of cotton were also shown from Rajputana and Jeypore.

Much confusion still exists with regard to the forms of cotton met with in cultivation in India, and, as suggested by Dr. Watt in the Official Catalogue, it would be of considerable importance to have carefully dried flowering specimens prepared from every district in India, in order to have the plants accurately determined. There are in India three species of *Gossypium* known to yield cotton, but of these there are many varieties and hybrids, giving origin to the numerous forms known to the cultivator and manufacturer by local and technical names. The three species may be briefly defined—

(1) *Gossypium arboreum*, (*Linn.*). This is known as *Narma, manua* or *radya* cotton; and in Mysore as *deo kapás*. It does not appear to be cultivated to a great extent on account of its cotton. It sometimes attains the height of a small tree; more frequently is a densely branched bush with purple flowers, often having a yellow centre. The *leaves* are

thicker and more glossy than those of the next species, three fourths segmented or even cut to the base, into 5 to 7 lobes, (mostly 5, never 3); the segments are contracted below, narrow ovate, linear, acuminate or ovate lanceolate, not one-fourth as broad as long; central lobe often having, on either side, a small supplementary segment or tooth in the deep rounded lateral sinus. *Bracteoles* of the flowers ovate, cordate acute, toothed or entire. *Seeds* free from each other, covered with a white cotton over-lying a dense green down; *cotton* not readily separable from the seed.

This is now viewed as a native of tropical Africa.

(2) *Gossypium barbadense*, (*Linn.*). There are many very distinct cultivated forms referred to this species. Whether the accepted type is the original condition of the plant, however, or is itself only one of the numerous cultivated forms, can only be determined when the whole subject of the wild cottons of America (the wild cottons which exist as such at the present day) have been carefully worked out and figured. At the time of the discovery of America the forms of cotton now referred to this species were being cultivated from the West Indies to Peru, and from Mexico to Brazil. Accepting this as evidence that they were the cultivated forms of an indigenous species—the more so since, as far as can be learned, they were not known to the old world before the discovery of America—we may accept the general view and regard them collectively as "the American cottons." According to some botanists these are referred to a number of distinct species, or by others are reduced to varieties under a somewhat hypothetical species. Parlatore reduced the numerous conditions to three species, which answer to *Gossypium hirsutum*, *Gossypium barbadense*, and *Gossypium religiosum* of Linnœus. The authors of the flora of British India group a number of forms, including the above, into one species namely *Gossypium barbadense*. We reproduce here the substance of Dr. Watt's arrangement, which seems to meet the special necessity of the Indian forms:—

Gossypium barbadense, (*Linn.*). *Leaves* sub-glabrous, broader and more cordate than those of the preceding species, having rounded ears at the base: blade about half cut into three to five lobes, each broad ovate, acuminate, more than half as broad as long (often very acuminate and then almost sub-lanceolate. Floral *bracteoles*, larger and broader than in the preceding species, obtuse, deeply laciniate. *Flowers* yellow with a crimson spot. *Seeds* black and naked, *i.e.*, destitute of aduate pubescence (except var. *religiosum*), free from each other or cohering in a kidney-shaped mass. *Cotton* readily separable from the seeds, white tawny, or almost brown.

This may be referred to three varieties.

Var. 1st—barbadense proper.—This corresponds to the Bourbon cottons and the Barbadoes, New Orleans, Sea Island, Uplands, Egyptian, Georgian, Florida, and Alabama cottons. The much-prized Dharwar appears to be a form of New Orleans.

Var. 2nd—religiosum., sp., Roxb.—This is the Nankeen cotton of Roxburgh's Flora of India. Its distinguishing feature seems to be that the seeds are clothed with tawny pubescence and enclosed in cotton of the same colour. Apparently this was introduced into India at a much earlier date than the forms referred to the first variety, and as it

exists at the present day might be more correctly viewed as a bybrid, hence the fact of the seeds being pubescent.

Var. 3rd—acuminatum, sp., Roxb.—This is the Peruvian or so called kidney cottons. These are distinguished chiefly by the peculiarity of the black naked seeds cohering together in a kidney-shaped mass. It is probable that these are even still earlier introductions than the forms of the preceding variety, and Roxburgh seemed to incline to the opinion that they were indigenous. They are sometimes spoken of under the name of *Gossypium peruvianum*. The following are the principal commercial forms:—Brazilian, Pernambuco, Maranham, and Peruvian and the *Ûkan paruthi* and *Jadi paruthi* of Madras.

It seems probable that instead of *Gossypium hirsutum*, (*Willd.*) being constituted into a fourth variety, it should be viewed as a distinct hybrid between *Gossypium herbaceum* and *Gossypium barbadense*. It is chiefly characterized by having greenish tomentose seeds surrounded by fine long silky cotton and by having purple flowers with the leaves of the American forms. A good deal of the Berar and Surat cottons, and also the *nudum yerra prathi* and *semparuthi* of South India, are of this nature.

(3) *Gossypium herbaceum (Linn.)*. There seems no doubt about this species having been originally a native of Asia, and of India in particular. A wild species, closely allied, is said to occur in Sind at the present day, which may prove the parent of the cultivated forms. Its cultivation has, however, spread all over the world: it is common in Europe, Asia, and the United States. To admit of comparison with the species described above, the diagnostic characters of this species may be here given:—*Leaves* very hairy; often quite hirsute; about half cut into three to five lobes, mostly three: lobes ovate, oblong, acute, or acuminate; about half as broad as long. Floral *bracteoles* ovate, cordate, acute, toothed or entire. *Flowers* yellow with a purple centre, or rarely wholly yellow or white or purple. *Seeds* ovoid, free from each other, covered with greyish or greenish down, cotton white or yellow. The most characteristic features of the plant are its very hairy leaves, half segmented, the majority having only three lobes or five, very rarely seven. The bracteoles are those of *Gossypium arboreum*, and are quite unlike the laciniated bracteoles of *Gossypium barbadense*. The purple flowers and green tomentum of some of the forms has most probably been derived by hybridism with *G. arboreum*; some such hybrid being again crossed with *G. barbadense* to produce a few of the cultivated forms, such as *G. hirsutum*, which possess the characters of all three species.

There seems to be little doubt that *G. herbaceum* has been hybridized freely with both of the preceding species, and that many of the cultivated forms of cotton met with in India are of this nature. Efforts appear to have been made to improve the indigenous plant by crossing it with the superior though less hardy and introduced species. The hybrids and cultivated forms of this species may conveniently be referred to two sections:—

Var. 1st—herbaceum proper.—This includes the Bengal or Dacca cottons, and many of the Berar and Surat—such as the *Kumari hatti* of South Canara and *Punasa pratti* of Ganjam and of the China cottons.

Var. 2nd—obtusifolium.—This is the small blunt-leaved form met with in Ceylon and on many of the hill tracts of India.

SILK COTTON.

Interest has recently been taken in the subject of "silk cottons" or kapok. The following are the plants which yield this fibre, enumerated in the order of their importance:—

(1) *Eriodendron anfractuosum*, (*DC*).—The *Kapok* or White Silk cotton, the *Elavamparuthi* of Madras. This is particularly plentiful in the Konkan, but it grows in most parts of India, and its cultivation could be extended. As a roadside tree, while affording shade it might thus be made to yield a distinct revenue to the country.

(2) *Bombax malabaricum*, (*DC.*).—The *Simal* or Red Silk Cotton. This is the commonest of the silk cotton trees, occurring throughout the peninsula, but more particularly in the eastern side, and ascending the hills to 4,000 feet in altitude.

(3) *Cochlospermum Gossypium*, (*DC.*).—The *Kambi* or *Galgal*. A common tree of the lower hills of India from Garhwal, Bundelkhand, Behar, Orissa, and westwards to the Deccan. It has large yellow flowers, and is not uncommon in cultivation throughout the country, especially in South India. It does not appear that samples of this form of silk cotton have been consigned to Europe and declared as such, so that its peculiar merits have not been definitely determined. The fibre is soft and silky, but very short.

(4) *Calotropis gigantea*, (*R. Br.*).—The *Madar* and other *Asclepiadaceæ* and *Apocynaceæ*—yield silky hairs—the coma of the seeds. These are generally classed as silk cotton, but, with the exception of *madar*, none of these fibres have as yet been experimented with. The natives of India regard the *madar* silk cotton as much cooler than *simal*, and affirm that it has a soothing effect when used in pillows.

JUTE.

This fibre is prepared by retting the stems of *Corchorus capsularis* and *C. olitorius* of *Linnæus*, two species of closely allied plants. The former has a spherical fruit, flattened at the top; it is the species which yields the fibre in Central and East Bengal. The latter has an elongated fruit, and is the species cultivated in the vicinity of Calcutta. The genus *Corchorus* has representatives in all the warm, moist regions of the world—Asia, Africa, and America. Geographical evidence cannot therefore be resorted to in efforts to determine the ancestral home of the jute-yielding species. *C. olitorius* is the Jew's mallow. It is cultivated in Egypt and in Syria as a vegetable, and in many other parts of the world. By some authors it is viewed as a native of Western India and of Kordofan. In Bengal, where both *C. olitorius* and *C. capsularis* are cultivated for the fibre, they do not appear to exist in a wild condition.

In the Official Catalogue will be found an interesting account of the jute trade, to which we must refer the reader for fuller details. The first commercial mention of the word "Jute" is in the Customs returns of the exports for 1828. In that year 364 cwt., valued Rs. 620, of raw jute were exported to Europe. At that period the manufacture of gunny-bags and cloth was entirely in the hands of the Indian peasant, but it must have been limited, since there does not appear to have been any foreign trade in these jute manufactures. Jute mills were, however, soon after this established in Dundee, and a large export trade in raw jute sprang into existence. Down to the year 1854 little or no effort, however, was made to improve the Indian jute manufactures, but in that year the "Ishera Yarn Mills Company" was established near Serampore. Three years later the Company, now known as the "Baranagore Jute Mills," was established, and in 1863-64 the "Gouripore Jute Factory" was founded. Factories sprang up rapidly in every direction around Calcutta. There are now 23 large jute mills at work in India, and in 1882 the exports of raw jute amounted Rs. 5,03,03,023, and the exports of manufactured jute to Rs. 1,09,72,461. Expressing these figures at par, we have the startling fact that the value of the foreign trade in jute in 1828 was only £62 sterling, and in 1882 £6,127,548. During the year of the Exhibition the total exports of jute, raw and manufactured, were valued at Rs. 5,92,67,800. Little more than forty years ago the peasant hand-looms of India met the home and also the foreign demand for Indian-made gunny-bags, but the opening out of steam factories in India has not only absorbed this trade, but has greatly extended the foreign market. This is illustrated by the fact that in 1850-51 the exports of hand-loom manufactures were valued at £215,978; in 1883-84 they were only £34,232. There were no European factories at work in India in 1850, so that the exports of manufactured jute, which appear in the trade returns for that year, must have been entirely hand-loom made. But even with 23 large factories at work the foreign trade in raw jute is four times as valuable to India as her exports of manufactured jute. In estimating the total value of jute to India care must be taken not to regard the quotations of imports and exports of jute and jute manufactures, declared as such, as indicating the actual extent of the trade. These represent the foreign trade, and indeed only a portion of the foreign trade.

Leaving out of account the large quantity of jute used up annually by the people of India themselves for agricultural and internal trade purposes (home trade), an immense number of gunny-bags leave India in the foreign produce trade filled with wheat, rice, and other grains and seeds, and are therefore not included in the returns of exports of gunny-bags. Thus in 1882 there were 41,523,607 gunny-bags exported from India as such, but in addition there were 77,519,164 gunny-bags sent from Bengal to other presidencies to be used apparently in the export produce trade. Thus in that year the exports of gunny-bags declared as such were little more than one-third the number actually manufactured. We have not been able to discover the corresponding number of bags used in the produce trade of 1883-84, but the total value of the foreign trade in jute published by Mr. O'Conor in his trade and navigation returns for that year was Rs. 5,96,83,558 (= value of imports and exports of raw and manufactured jute returned as such).

Collections of jute and jute manufactures were shown in the Economic Court by Messrs. Barry & Co., Messrs. Jardine, Skinner & Co., and by a number of other firms and private exhibitors; Mr. Batten and also Mr. Hough contributed samples of British Burma jute.

SILK.

The foreign trade in silk may, with a degree of convenience, be referred to—(*a*) mulberry-feeding or domesticated silks, and (*b*) non-mulberry-feeding or wild silks. The latter, according to trade returns, is now-a-days being classed as waste silks.

(*a*) We have already given the quotations of the value of the foreign trade in this substance. But it may be said that there is perhaps no Indian product which has been more misunderstood, or which has passed into so many eccentric channels. Our imports of raw silk from China alone exceed our total exports of raw silk. Burma is the most important market for manufactured silks, and the bulk of the raw-silks conveyed from China to Bombay are re-exported in the form of *putsoes* and *tamains* to Burma. An effort has recently been made by a native of Surat to more expeditiously meet the Burmese trade. In the vicinity of Calcutta he has opened out a steam factory for the manufacture of Burmese *putsoes* from Bengal silk.

Several large companies have been established, both in Bengal and in the Panjáb, to extend the rearing and reeling

of Indian and introduced mulberry silks. Mr. O'Conor in his review of trade for 1883-84 says:—"There was an unusual activity in this trade last year, when as much as 673,360lb were exported, which was 34·25 per cent. larger than the trade for 1882-83. The value of the trade was 52½ lakhs. The silk harvest in Europe was very poor, and the demand for Asiatic silk was lively, but unfortunately only for a time."

A most interesting series of specimens were exhibited by Messrs. Lister & Co., of Bradford, from their large Panjáb plantations; by Messrs. Jardine, Skinner & Co.; Messrs. Lyall, Gray & Co.; and Captain E. R. Bartleet, Palumpur, Kangra Valley, showed a very instructive case of cocoons reared by him. A small case of silk and cocoons was also shown by Mr. Mahabúl Mandal from the Joyrampore Filature, Moorshedabad. Babu Bagola Nand Mukharji, of Moorshedabad, and Babu Mahendra Nath Bhattacharjya, of Bogra, also sent excellent samples, and in addition several other European and native merchants exhibited mulberry silks.

But we must hasten to say something regarding the so-called waste or wild silks of India.

(*b*) By waste is primarily meant the rejections from mulberry silk; but as many of the wild silks are difficult to reel, they are now being spun much in the same way as waste mulberry silk.

The *Tassar* and the *Muga* cocoons are capable of being reeled, and it seems probable that there will always exist a trade in at least the former, and with a little effort, as pointed out by Mr. Thomas Wardle, India might easily participate more largely in the *tassar* trade than at present. It is a remarkable fact that China should supply Europe with more *tassar* silk than India. There were shown at the Exhibition many wonderfully pretty specimens of *tassar* silk. Messrs. Lister & Co. exhibited a series of skeins reeled by European appliances, and Mr. J. Deveria also exhibited some excellent samples, a skein of which was opened out to show the purity of the fibre. A large assortment of the small skeins of native reeled *tassar* from different parts of Bengal, Chutia Nagpore, and Cuttack, attracted considerable attention, the more so as each quality was shown alongside of the cocoons from which it was reeled. The Madras Government contributed *tassar* cocoons of a small pale colour which seemed very different from the Bengal cocoons. Mr. J. Deveria's *tassar-waste* and *tassar-waste tape* were carefully exmined by many visitors.

Mr. G. A. Richardson, of Buxa, contributed a large assortment of *Eri*, and Mr. R. A. Manüel, of British Burma, and Mr. J. W. Cherry, of Salem, showed large samples of *Cricula trifenestrata* cocoons. The most interesting collection of wild silks, however, was that exhibited by Mr. K. K. G. Hatti, Buruah of Assam. Indeed this collection constituted a most attractive feature of the Court each species being complete—cocoons, worms, eggs, insects, silk, and silk cloth, of all the wild silks of Assam.

In concluding this brief notice of the silks of India, we may say that "There are several great questions connected with silk which are pressing for a settlement. For instance, is it possible that any of the so-called wild mulberry worms of India are capable of development in the hands of European rearers, presuming that one of them may be found not subject to the disease which in Europe is daily becoming more and more alarming? There does not appear to be very much hope in this direction; but the question of the hybridization of Indian insects with those of Europe and other parts of the world has not been worked out, and it certainly deserves careful consideration. Again, is it possible to procure a totally new insect (not a mulberry-feeding one) which could take the place of the mulberry-silk insect in many branches of the industries? The *Tassar*, *Munga*, *Eri*, and *Cricula* silks, have long been before the world. One is impossible to reel; another is unsuitable for the market. A thousand-and-one objections have been raised against these silks, but the alarming position of the mulberry worm has of late years invested the so-called wild silks of India with a novel interest. There is another important question which India has to determine, and that is, whether the *eri* silkworm can be hybridized in such a way as to make it reelable, while not destroying its habit of feeding on an annual plant. Apart from the other difficulties which beset the *tassar* worm, its habit of feeding upon trees renders it almost incapable of an extended cultivation. The *eri* of Assam and of Eastern Bengal feeds upon the castor-oil plant, an annual plant, which, while yielding a free crop of leaves for the worm, affords a valuable supply of oil-seed at the same time."—(*The Englishman*). The passage which we have reproduced refers briefly to one of the most promising features of our indigenous silks. A worm like the *eri*, which may be reared upon a hardy indigenous plant, such as castor-oil, has many attractions, and with the improved machinery

recently invented in Europe the *eri* cocoons can be spun in such a manner as to meet a ready sale for many of the purposes to which reeled silks were formerly put. We may hopefully look to an immensely extended trade in spun silks—a trade not open to the dangers which beset the attempts to foster and develop mulberry-rearing in India. Not only is this true of *Eri*, but of the reticulated cocoons which are now known in trade by their scientific name—the various species of *Cricula*.

The exports of waste and wild silks during the year 1883-84 amounted to 885,395lb.

SECTION VIII.—TIMBERS.

The collections shown in this section of the Court were made by the Forest Department, and were under the immediate charge of Mr. F. B. Manson, an officer of the Forest Department, deputed on special duty in connection with the Exhibition. The collection comprised a large assortment of blocks of wood from all parts of India, bamboos, thatching-grasses and reeds, and other minor forest products. The Catalogue of the collection formed the seventh volume of Dr. Watt's Official Catalogue of the Economic Court, and was prepared by Mr. Manson. With the sanction of the author, this Catalogue was in the form of an abstract of Mr. J. S. Gamble's *Manual of Indian Timbers*, arranged alphabetically, and abbreviated so as to contain only brief notices of the properties and uses of the timbers.

The collections were classified on the same principle as was pursued throughout the rest of the Economic Court. There was an index set, arranged according to the catalogue, and displayed upon accessible racks placed against the walls, the bulk of the duplicate sets being arranged as handling samples, especially those of commercial importance, or were used for decorative purposes.

Having examined the magnificent collection of baskets and basketware, and the equally interesting display of grass and cane mats which separated the section devoted to fibres from that in which the timbers were shown, the visitor's attention would most probably be attracted to the beautiful gateway built up of some 2,000 small blocks of different timbers. This was the special trophy of the Forest Department, and formed the northern entrance into the Economic Court. "This magnificent conception was in structure

similar to the Indian-corn arch, but instead of corn-cobs it was built up entirely of blocks of wood of different colours, neatly arranged and polished." "The taste and care bestowed on this gateway did great credit to the department and to Mr. Manson." (*The Pioneer.*) We cannot enter into a detailed description of the immense number of timbers shown by the Forest Department. One of the most instructive sets, and one which indeed formed the main feature of the collection, was that prepared, some few years, by Dr. Brandis and Mr. J. S. Gamble. Each block had embossed on it the number given by Mr. Gamble to the specimen. Indeed, this was the collection upon which Mr. Gamble's Manual of Timbers was written, so that it is the most accurate type-collection in existence. A large and interesting series of timbers belonging to the Bengal Economic Museum was also amalgamated with the general collection..

The Bombay Government communicated a few interesting samples of the characteristic timbers of the Western Presidency. These were prepared by Mr. W. A. Talbot, of Kanara, and consisted of planks about 14 inches by 2 feet, hinged together—two pieces of each kind of timber. On one side was a slab of the wood simply planed, and on the other a corresponding piece carefully polished. A large collection of tea box-woods was also shown with pieces of lead screwed between a pair of slabs seasoned and another pair unseasoned, so arranged to demonstrate the action of certain woods upon lead. The subject of the corroding of the lead-lining of tea-chests is causing much anxiety to the tea-planter at the present day, and this collection was very naturally carefully examined by a large number of visitors.

The forest gateway aleady described was the most attractive feature of this section of the Court, however, and it formed an appropriate and effective termination to the Economic Court.

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Classified List of Jurors.

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A. D. Westerhout, Esq.
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R. D. Mehta, Esq.

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W. Swinhoe, Esq.
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Ditto ditto ditto ...	Leather belting.
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Artist Color Manufacturing Co., 27, Hatton Wall, London.	Artists' colors and materials.
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Ditto ditto ditto ...	Weighing-machines for mining purposes.
Ditto ditto ditto ...	Weighing-machines for railway purposes.
Ditto ditto ditto ...	Chemical and assay balance.
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Boulton & Mills, Stourbridge	Cut and ornamental glassware.
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Ditto ditto	Wool fabrics.
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Ditto ditto	Upright cottage piano with improvements.
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Brownfield & Sons, W., Cobridge, Staffordshire.	China and earthenware.
Bruce Brothers, Goran Oil Factory, Glasgow...	Mineral, vegetable, animal, and composite oils.
Brunner, Mond & Co., Limited, Northwich, England.	Washing alkali, carbonate of soda.
Burroughes & Watts, London	Billiard table and accessories in solid oak, richly gilt.
Burroughs, Wellcome & Co., Snow Hill Buildings, London, E.C.	Beef and iron wine.
Bush & Co., W. J., 20, Artillery Lane, Bishopsgate Street, London.	European essences.
Calvert & Co., F. C., Manchester	Carbolic acid soap.
Ditto ditto	Medicinal carbolic acid, sulphocarbonates, &c.
Cammell & Co., Charles, Ld., Sheffield ...	Steel of all kinds.
Cantrell & Cochrane, Dublin	Aërated waters.
Carr & Co., Carlisle	Fancy biscuits.
Chatwin, Thomas, Victoria Works, Birmingham	Engineers' tools, screwing tackle for rods and tubes, twist drills, standard gauges, spanners, tube-cutters, &c.
Cheavin, George, Boston, Lincolnshire ...	Rapid water-filters.
Chiswick Soap Co.	Soft soap.
Christy & Sons, W. M., Limited, Fairfield Mills, Droysden.	Cotton towels of all descriptions.
Chrystoleum Co., London	Chrystoleum.
Clayton & Shuttleworth, Lincoln	Portable steam-engines.
Cockburn & Co., Leith	Scotch whiskey.
Copal Varnish Co., London	Varnishes.
Corbet, John, M.P., Stoke Prior Saltworks, Worcestershire.	Salt for curing provisions, table and dairy purposes.
Cradock & Co., George, Wakefield	Steel and iron wire ropes.

Crewdson, Crosses & Co., Limited, 40, Portland Street, Manchester.	White shirtings, sheetings, and twills.
Cutler, Palmer & Co., London, Calcutta, Bombay, and Madras.	Collective exhibit of wines.
Dewhurst & Sons, John, Skipton, England ...	Machine and hand sewing cotton.
Dickinson & Co., John, 65, Old Bailey, London, and Calcutta.	Stationery.
Ditto ditto ditto ...	Printing and drawing papers.
Dickinson & Sons, Wm., Phœnix Iron Works, Blackburn.	A complete set of mill furnishings.
Ditto ditto ditto ...	A power weaving loom for weaving calico, woollen, silk linen, &c.
Dixon & Sons, James, Sheffield	Silver and electro-platedware.
Donne, Lewis, London	English watches.
Doulton & Co., Lambeth, London ...	Pottery, earthenware, Lambeth faience.
Ditto ditto	Garden furniture, vases, pedestals, balustrades, &c.
Ditto ditto	Drainage-pipes.
Ditto ditto	Patent automatic flush tank.
Ditto ditto	Stoneware apparatus used in manufacturing chemistry, &c.
Eley Brothers, Gray's Inn Road, London ...	Sporting and military ammunition.
Esdaile & Co., 6, Water Lane, London, E.C., and Melbourne.	Upright cottage piano.
Evans, Lescher & Webb, 60, Bartholomew Close, London.	Pharmaceutical preparations and drugs.
Evans, Sons & Co., 56, Hanover Street, Liverpool.	Conroy's malt coffee.
Ditto ditto ditto ...	Montserrat lime juice.
Ditto ditto ditto ...	Ditto ditto sauce.
Evans & Wormulls, 31, Stamford Street, London.	Collection of surgical instruments and appliances.
Eyre & Spottiswoode, London	Embroidered and hand-painted fans.
Ditto ditto ditto	Bibles, prayer-books, church services and hymn-books.
Falkner, Francis, 83, Grafton Street, Dublin...	Irish whiskey.
Feltham & Co., London	Toys.
Ferguson Brothers, Holme Head Works, Carlisle.	Dyed silesias, pocketings, sateens, &c., for tailors' linings. Pure domestics.
Ferris, Boorne, Townsend, and Boucher, 4 & 5, Union Street, Bristol.	A collective exhibit of drugs, medicines, and chemicals.
Field, J. C. & J., Lambeth Marsh, London ...	Fancy soaps.
Ditto ditto ditto ...	Candles.
Field, Sons & Co., 28, Mincing Lane, London...	Cordials.
Ditto ditto ditto ...	Jamaica rum.
Firmin & Sons, 153-5, Strand, London ...	Military accoutrements, gold lace badges, buttons, &c.
Fowler & Co., John, Leeds	8 H.-P. military or contractors' engines.
Ditto ditto	Steam ploughing machinery.
Ditto ditto	10 H.-P. compound semi-portable engine.
Fraser & Co., A. B., Liverpool	Fresh-water condensers.
Fry & Sons, J. S., Bristol	Chocolate and cocoa.

Garrett & Co., Suffolk	Flanged boiler-plates.
Giffard Patent Freezing Co., Ld., 7, Lothbury, London, E.C.	Cold-air machine fitted with ice-chamber.
Gilbert, Gilkes & Co., Kendal	Vortex turbine (Thompson's).
Gilbey, W. & A., London	White rum.
Ditto ditto ditto	"Viceroy" Scotch Whiskey.
Gillon & Co., John, Leith	"Mountain Dew" Scotch whiskey.
Ditto ditto	Essences of meat or meat juice.
Goddard, Joseph, Station Street, Leicester ...	A collective exhibit of furniture cream, jeweller's rouge, plate-powder, silvering-solution, &c.
Goodall & Son, Charles, Camden Town, London	Playing-cards, Christmas cards, drawing and mounting boards, ball-programmes, stationery, &c.
Gosnell & Co., John, London	Ivory worked into handles for hair-brushes.
Green & Son, Edward, 14, St. Ann's Square, Manchester.	Patent fuel economiser.
Griffiths, Bordoe & Co., the Sanitary Paint Co., Ld, No. 51, South John Street, Liverpool	Paint, white lead, sanitary and distemper colours.
Grimble & Co., Cumberland Market, London...	Malt vinegar and white wine vinegar.
Grimston & Co., R. & T., Clifford Mills, near Tadcaster.	Threads and twines.
Gwynne, J. & H., London	Centrifugal pumps with engines.
Hall & Son, John, London	Gunpowder of all kinds.
Hanson, Son, Evison & Barter, Botolph Lane, London.	"Peatmoor" Scotch whiskey.
Harding & Son, T. R., Tower Works, Leeds ...	Wood logs, counters, speed-indicators, &c.
Ditto ditto ditto ...	Engine-counters.
Hardy Patent Pick Co., Sheffield	Mining-tools.
Harris & Sons, John, Derwent Mills, Cockermouth.	Linen thread for machine and hand sewing, flax and tow yarn.
Haslam & Co., John, Ld., Manchester ...	White shirtings, sheetings, and twills.
Haworth, James, Victoria Works, Farnworth, near Manchester.	Haworth's patent revolving archimedian and radial screw ventilators.
Hayward, Tyler & Co., London ...	Macdonell's patent automatic steam bottler.
Heaton & Sons, Ralph, The Mint, Birmingham	A collection of brass and copper fittings.
Hedges & Butler, 155, Regent Street, London	Ports and sherries.
Henderson Bros., Union St., Glasgow ...	Model of S.S. "Belgravia."
Hildesheimer & Co., S., London	Oleographs.
Hooper, Charles, Stonehouse, Gloucester ...	Broadcloth.
Horrockses, Miller & Co., London ...	White shirtings, sheetings, and twills.
Howards & Sons, City Mills, Stratford, London.	A collection of cinchona alkaloids and barks, together with other chemicals and drugs.
Hunt & Winterbotham, Cam Mills, Dursley, Gloucestershire.	Varieties of cloth.
Ind Coope & Co., Burton-on-Trent and Romford	Pale ale and bottled beer.

Jabez Johnson, Son, Allsop & Co., 44, Spring Gardens, Manchester.	Cotton twills.
Johnston, W. & A. K., Edina Works, Eastern Road, Edinburgh.	Geographical works and school appliances.
Jones, G. H., 57, Great Russell Street, London	Artificial teeth and dental appliances.
Jones, Brothers & Co., Ablow Street, Wolverhampton.	Hardware, hollowware, trunks, &c.
Kenning, George, London	Masonic jewelry.
Ditto	Royal arms embroidered in gold and silver, tiger's head, R.E. belt, R.A. sabretache cap, badges, &c.
Kent & Sons, G. B., London	Brushware.
Kepler Malt Extract Co., Snow Hill Building, London, E.C.	Extract of malt and its preparations, palatable cod-liver oil,
Ditto ditto ditto ...	Cod-liver oil.
Kinmond, J. C., Leamington	Tea-dryer, adapted for any kind of fuel.
Ditto ditto	Ditto ditto for the use of coke and charcoal.
Kirker, Greer & Co., Belfast	"Shamrock" Irish whiskey.
Kirkstall Forge Co., Leeds	A collective exhibit of rolled iron.
Kitson & Co., Leeds	Engines for tramways.
Kynoch & Co., Lion Works, Wilton, near Birmingham.	Military and sporting ammunition.
Langworthy Brothers & Co., 12, Charlotte Street, Manchester.	Cords, velveteens, drills, twills, &c.
Law & Sons, Samuel, Moorland Mills, Cleckheaton, Yorkshire.	Card, clothing and mill furnishings.
Lecky & Co., F. B., Belfast	Linen and cotton flowered handkerchiefs.
Lincoln, Bennett & Co., Picadilly, London ...	Hats, caps, and helmets.
Lorrimer & Co., 42 & 44, Hargrave Park Rd., London.	Drugs and medicines, extract of sarsaparilla.
Macfarlane & Co., Walter, Saracen Foundry, Possilpark, Glasgow.	Drinking-fountains and cattle-troughs.
Ditto ditto ditto ...	Ornamental arbour, drinking-fountain, &c.
Maltine Manufacturing Co., Limited, 24, 25, Hart Street, Bloomsbury, London.	Maltine and its preparations, beef peptenoids, &c.
Marshall, Sons & Co., Limited, Gainsborough	Semi-portable engines.
Ditto ditto ditto ...	Threshing-machine.
Ditto ditto ditto ...	Horizontal engines and locomotive boilers.
Ditto ditto ditto ...	"Excelsior" tea-roller.
Ditto ditto ditto ...	Circular saw-benches.
Marshall & Burt, Thomas D., 444, Oxford Street, London.	Boots, shoes, and slippers.
Marston & Co., John, Birmingham ...	Broughams, hansoms.
Mathews & Co., Richard, London ...	"Carlton" Scotch whiskey.
Maynard, Harris & Co., 126, Leadenhall Street, London.	Special Devon tricycle.
McIlwraith & Co., Glasgow	Paulins and railway carriage roof coverings.
McKenzie & Holland, Hammersmith ...	System of signal points, locking, &c.
McNaught & Smith, Worcester and London ...	Five-glass landaus.

McVitie, R., Edinburgh	Short-bread, oat-cakes.
Middlemore, William, Birmingham ...	Collective exhibit of harness, &c.
Milner's Safe Co., Limited, London and Liverpool.	Fire and burglar-proof safes.
Milward & Sons, Henry, Washford Mills, Redditch.	Needles.
Minton, Hollins, & Co., Stoke-upon-Trent ...	Hand-painted and printed art tiles.
Mitchell, William, Cumberland Street, Birmingham.	Steel pens.
Moir & Son, John, Limited, 148, Leadenhall Street, London.	Jams, jellies, and marmalade.
Ditto ditto ditto ...	European pickles.
Ditto ditto ditto ...	Butter.
Ditto ditto ditto ...	Preserved fish.
Ditto ditto ditto ...	Do. meat.
Ditto ditto ditto ...	Do. soups.
Ditto ditto ditto ...	Do. fruits and vegetables.
Ditto ditto ditto ...	English sauces.
Ditto ditto ditto ...	Yorkshire hams.
Müller, Andr., 41, Seething Lane, London ...	German lager beer.
Nasmyth, Wilson & Co., Ld., Patricroft, Manchester.	R. Wilson's patent horizontal direct acting pumping engines for hydraulic pressure.
Nettlefolds, Limited, Birmingham	Ratchet-brace, Weston's differential improved screws and nails, steel and wire rods, bar-iron.
Oakshott & Co., E. G., Reading	A collection of seeds.
Ortelli & Co., John, Hutton Gardens, London...	Mirrors, jardiniers, girandoles, console table, and cabinet.
Pain, James, 121, Walworth Road, London ...	Fireworks.
Pearson & Knowles, Coal and Iron Co., Limited, Warrington, Lancashire.	Iron, steel bars, &c.
Porter & Co., Robert, 77, Pancras Road, London	Ale and stout.
Pound & Co., John, Leadenhall Street, London	Portmanteaux and trunks.
Preston & Son, W., Leicester	Elastic boot webs.
Price's Patent Candle Co., Limited, Belmont Works, Battersea, London.	A collective exhibit of toilet glycerine, carbolic soap, &c.
Priestman Brothers, London	Priestman's B size patent dredger, excavator, and elevator.
Pulsometer Engineering Co., London ...	Deane's feed and high-lift pump.
Purdey & Sons, James, London	Implements of the chase.
Rademakers, P., & Co., 41, Seething Lane, London.	"Falcon brand" Geneva.
Randall, H. E., Wolverhampton	Lawn-tennis and other rubber-soled shoes.
Rawlings & Son, S., South Parade Works, Frome, Somerset.	Card clothing.
Robinson & Son, Thos., Limited, Rochdale ...	Wood-working machines as follows:—Plain iron girder, plainng and moulding hand-pin, panel-planer, circular saw-bench with rising and falling spindle, band-saw, Armstrong's dove-tailer, planing, and jointing.
Rose, Downs, & Thompson, Old Foundry, Hull	Oil-mill with engine.
Ross, W. A., & Co., Belfast	Lime juice.
Ditto ditto	Aërated waters.

Rossendale Printing Company, Manchester ...	Printed cretonnes and fancy dress prints.
Ruston, Proctor & Co., Lincoln	Flour-mills.
Ditto ditto	Fourteen H.-P. horizontal engines.
Rylands Brothers, Limited, Warrington, Lancashire.	Steel and wire ropes and fencing wire.
Sanitas Company, Ld., London	Sanitas oil and products.
Siegert & Sons, Dr. J. G. B., 145, Cannon Street, London.	Angostura bitters.
Silber & Fleming, 57, Wood Street, London ...	Collection of fancy and decorative glassware.
Silber Light Co., 49, Whitecross Street, London, E.C.	Lamps.
Simpson & Rook, 9 & 10, Little Britain, London	Collective exhibit of gold embroidery for military clothing.
Ditto ditto	Collective exhibit of gold lace, braids, and cords.
Ditto ditto	Military accoutrements.
Singer & Co., Coventry	Tricycles and bicycles.
Skitt & Co., John, 93, Summer Street, London	Paints, colours, and varnishes.
Slack & Brownlow, Canning Works, Upper Medlock Street, Manchester.	Compressed charcoal rapid water-filters.
Smith & Co., George, Sun Foundry, Glasgow...	Architectural cast-iron works, pavilions, bandstands, &c.
Ditto ditto ditto ...	Garden fountains.
Sorby & Sons, Robert, Sheffield	Saws, files, edge-tools, and steel.
Stephens, H. C., 191, Aldersgate Street, London	Collective exhibit of inks, sealing-wax, gums, &c.
Steward, J. H., 406, Strand, London ...	Optical instruments, opera-glasses, telescopes, &c.
Stewart & Co., S. R., Aberdeen Comb Works, Aberdeen.	A collection of horn and tortoise-shell combs.
Stiff & Sons, James, Lambeth	Architectural terra cotta.
Ditto ditto	Drainage-pipes.
Stollwerck Brothers, 145, Cannon Street, London.	Preserved fruits.
Swainson, Birley & Co., Fishwick Mills, Preston.	White shirtings, sheetings, and twills.
Symington & Co., T. Edinburgh ...	Essence of coffee.
Symons & Co., John, The Plains, Totnes, Devon.	Cider.
Taylor Bros., Adelaide Works, Sheffield ...	Saws, files, and steel.
Telegraph Construction and Maintenance Co., Ld., 38, Old Bond Street, London.	Submarine telegraph cables, &c.
Thomas, James L., & Co., Exeter	Alexandra oil.
Thomson, J. & J., Glasgow	Models of engines of S. S. "City of Calcutta" and S. S. "City of Cambridge."
Thomson, D. J., & Co., St. Anthony's Distillery, Leith.	Cordials.
Tootal, Broadhurst, Lee & Co., Manchester	White lenos, mulls, and jaconets.
Ditto ditto ditto ...	Silk, checks, and stripes.
Ditto ditto *ditto* ...	Mixed fabrics.
Tress & Co., Stamford Street, Blackfriars, London	Hats.
Trier, Mayer & Co., 47, High Street, Borough, London.	Glucose.
Tuck & Sons, Raphael, 72 and 73, Coleman Street, London.	Christmas, wedding and birthday cards.

Tullis & Son, John, St. Ann's Leather Works, Glasgow.	Leather belting.
Turnbull & Wood, Newcastle-on-Tyne ...	"Glen" whiskey.
Turner & Sons, R., Old Factory, Redditch ...	Pins, brass and steel needles.
Tylor & Sons, J., 2, Newgate Street, London ...	Buckett's patent caloric engine.
Ditto ditto ditto ...	Water-meters and district registering water-meters.
Ditto ditto ditto ...	Automatic water-detecting apparatus.
Ditto ditto ditto ...	System of house drainage.
Ditto ditto ditto ...	Baths, lavatories, and urinals, including pedal-action and spray and douche bath apparatus.
Ditto ditto ditto ...	Brass taps, plumbers' and waterworks fittings.
Usher & Co., Andrew, West Nicholson Street, Edinburgh.	"Glenlivet" Scotch whiskey.
Vaughan Jones, E., London and Glasgow ...	Cordials.
Ditto ditto ditto ...	"C. I. G." Scotch whiskey.
Vezey & Co., Bath	Victoria phæton.
Victoria Bitter Water Company, London ...	Victoria bitter water, a natural aperient from the springs of Budapest, Hungary.
Walton & Co., Ld., Frederick, Sunbury-on-Thames, Middlesex.	Sunbury wall decoration (Lincrusta Walton).
Warner & Sons, John, Crescent Foundry, London, E.C.	Wind-mills.
Ditto ditto ditto ...	Collective exhibit of garden-pumps.
Ditto ditto ditto ...	Hydraulic rams.
Warner & Ramm, London	Damasks, satins, velvets, brocades, and other upholstery silks.
Ward & Co., Anthony, Albion Mills, Leek, Staffordshire.	Silks, threads, and braids.
Waterlow & Sons, Ld., London and Calcutta	Collective exhibit of account-books, cheques, fancy stationery, &c.
Ditto ditto ditto ...	Engravings, with special reference to bank-notes, stamps, and security cheques.
Webb, Jubal, 73, High Street, Kensington, London.	York hams, smoked and pale.
Ditto ditto ditto ...	Cheese.
West Cumberland Iron and Steel, Co., Ld., Workington.	Steel.
Webster & Sons, Francis, Arbroath, Scotland ...	Sail-cloth, canvas, &c.
Wheeler & Wilson, London	Sewing-machines.
Whiffen, Thomas, Battersea, London ...	Collection of cinchona and other alkaloids, cinchona barks, liquid extracts, &c.
Whitehead & Sandbach, 113, Portland Street, Manchester.	Plain and fancy cotton, brocaded velvets, cotton brocades, &c.
Wilson Engineering Co., Ld., London ..	Portable cooking-stoves.
Wood & Son, John, 23, Queen Victoria Street, London.	Cigarettes and tobacco.
Wright & Greig, 90, West Campbell Street, Glasgow.	"Roderick Dhu" Scotch whiskey.

Yeatman & Co., 119, New Bond Street, London	Granulated flavouring essence.
Ditto ditto ditto ...	Collective exhibit of corn-flour, yeast, custard, egg, and Indian pudding powders, electric knife-polish.

Certificate of the First Class with Silver Medal.

Aire & Calder, Glassworks, London ...	Bottles.
Aitken & Co., James, Falkirk	Sparkling ale.
Albion Lamp Company, Birmingham ...	Kerosine stoves.
Alder and Mackay, Edinburgh	Gas-meter.
Ditto ditto	Light wet gas-meter.
Alford & McMaster	Kid gloves.
Alsing & Co., London	Safety and ordinary matches.
Anglo-American Tin Stamping Company, Limited, London.	Hardware, hollowware, &c.
Ditto ditto ditto ...	Enamelledware.
Angus, George, & Co., Newcastle-on-Tyne ...	Fire-hose in leather, copper riveted, cotton-hose, rubber-hose.
Arnold & Sons, 35, West Smithfield, London ...	A collective exhibit of surgical instruments and appliances.
Artistic Stationery Company, Limited, London	Artistic stationery, menu, programme, invitation, and other cards.
Augener & Co., 86, Newgate Street, London ...	Classical, educational, and other music.
Austin & Dodson, Sheffield	Steel-mining and metallurgy.
Autotype Co., 74, Oxford Street, London, W.C.	Photo-engravings, and photo-collotype.
Avery, W. & T., London and Birmingham ...	Letter-balances.
Ditto ditto ditto ...	Household scales.
Ditto ditto ditto ...	Registering do.
Ayres, F. H., London	Toys.
Bain & Co., William, Lochrin Iron Works, Edinburgh.	"Corrimony" galvanised wire fence.
Barnett & Foster, London	Essences.
Ditto ditto ditto	Syphon, aërated water, and beer bottles.
Baylis, Gilles & Co., ditto	Berlin wool and Penelope yarn.
Becker & Co., F. E., ditto	Chemicals.
Besson & Co., ditto	A collection of brass and silver band instruments.
Blackman Air Propeller Ventilating Co., Limited	Exhaust ventilator.
Boosey & Co., London	Improvements in brass musical instruments.
Boult Brothers & Co., Liverpool and Glasgow...	Baird's light-feed oil cup.
Box & Co., Dudley	Nails.
Braby & Co., Frederick, Limited, Fitzroy Works, Easton Road, London	Perforated zinc screen work.
Bradford Chamber of Commerce	Tapestries.
British Syphon Manufacturing Co., 2, Gresham Buildings, Basinghall Street, London	Seltzogenes and syphons.
Brooks, Shoobridge & Co., London ...	Portland cement made in Europe.
Brown & Polson, London	Corn-flour.
Brotherton, John, Wolverhampton ...	Iron tubes and fittings for gas, water, and steam.

Buckingham, Slater, London	Braces, silk handkerchiefs, neck wrappers.
Ditto " ditto	Silk umbrellas on paragon frames.
Burgess, W. J. & C. T., London and Brentwood, Essex.	Cotton gin.
Burgoyne, Burbridges, Cyraix, and Farries, 16, Coleman Street, London.	European essences.
Ditto ditto ditto ...	Carbolic and camphor soaps.
Butler & Co., Ld., George, Sheffield ...	Cutlery.
Cammell & Co., Charles, Limited, Cyclops Iron and Steel Works, Sheffield.	Railway materials, axles, springs, &c.
Cannon & Co., B., Glue and Parchment Manufacturers, Lincoln.	Gelatine powder.
Capelle & Gotteland	Stains and polish.
Carlile, Sons & Co., James, Paisley, Scotland...	Sewing-cotton.
Carter, J. Harrison, Mark Lane, London ...	Bone-disintegrator.
Caslon & Co., H. W., London ...	Specimens of type and printing materials.
Causton & Sons, Sir Joseph, 47, Eastcheap, London, E.C.	A collective exhibit of account-books, cheque and certificate forms, sealing-wax, fancy stationery, &c.
Chapman Son & Co., London	A collection of glassware.
Chatwin, T., Victoria Works, Birmingham ...	Hand-power screwing-machine.
Chatwood's Patent Safe and Lock Co., Limited, London.	Fire and burglar-proof safes.
Clanchy, F. J., Cork	Butter.
Clarke & Sons, W. G., Anchor Patent Biscuit Works, Limehouse, London.	Buffalo biscuits.
Cochran, A. & R., St. Rollox Flint Glass Works, Glasgow.	Gas and lamp globes and chimneys.
Cohen, B. & S., London	Pencil-sharpeners.
Collins, Sons & Co., Wm., London... ...	Educational books.
Colville, David, Motherwell, N.B. ...	Steel for boilers, ship-plates, and fittings.
Constable, W. H., The Avenue, Cambridge ...	Stained-glass windows.
Cowan, W. & B., Edinburgh	Gas-meter.
Ditto ditto	Glass-cased patent compensator meter.
Crossly & Sons, John, Limited, Halifax ...	Machine-made carpets.
Culver, E., London	Jewelry.
Currie & Co., Paisley, Scotland	Glenfield's patent corn-flour.
Cutler, Palmer & Co., London, Calcutta, Bombay, and Madras.	Scotch whiskey.
Davey, Paxman & Co., Standard Iron Works, Colchester.	Semi-portable engine, horizontal engine with separate semi-portable boiler, 6 H.-P. semi-portable horizontal engine and boiler combined, vertical semi-portable engine and boiler combined.
Davidson & Co., Thos, Junior, Caledonia Pipe Works, Garngad Hill, Glasgow.	Plain and coloured clay tobacco-pipes.
Davidson & Sons, John, Phœnix Mills, Newcastle-on-Tyne.	Wheat and seed separator.
Dawson, A. & W., Hogarth Works, Chiswick, London, W.	Photo-typographic blocks and photo-engravings.
Deane & Co., R. H., Heathcote Buildings, Nottingham.	Mob caps.

Deane & Co., R. H., Heathcote Buildings, Nottingham.	Laces.
Dick, Kerr & Co., 101, Leadenhall Street, London	Rolling-stock for light railways.
Ditto ditto ditto ...	Permanent-way for tramways.
Dixon & Sons, James, Sheffield	Sporting tackle.
Dixon, Alfred A., ditto	Ejectors, self-acting water and steam traps.
Doulton & Co., Lambeth, London, S.E. ...	Decorative work and artware.
Ditto ditto	Appliances used in irrigation.
Ditto ditto	Manganous carbon filters.
Easton & Anderson, London	Appold's centrifugal pumps.
Eccles & Co., Joseph, Preston	White lenoos, stripes, checks, twills, and jaconets.
Edmunds, J., London	Sauces.
Edwards & Sons, Wm., Wolverhampton ...	Edge-tools.
Englebert & Co.	Englebert's lubricant.
English and Australian Copper Co. ...	Copper ingots.
Evans and Wormulls, 31 Stamford, St., London	Appliances for easy and quick use in case of injury to limbs.
Everclean Collar and Cuff Co., 127, Leadenhall St., London, E.C.	Everclean collars and cuffs.
Everitt & Sons, Allen, Birmingham ...	Metalware.
Ditto ditto	Brass and copper locomotive, marine, gas, and steam tubes, brass and copper wire, rolled metals, wrought-iron, copper nails, rivets, &c.
Eyre & Spottiswoode, London	Artists' colours and materials.
Ditto ditto	Drawing appliances for schools.
Ditto ditto	Dressing-cases and albums.
Ditto ditto	Desks, work-boxes, &c.
Faber, Johann, Paternoster Buildings, London	Pencils, lead and coloured.
Farwig & Co., J. F., Wolverhampton ...	Despatch-boxes.
Fearncombe & Co., H., Wolverhampton ...	Hardware, hollowware, &c.
Feltham & Co., London	Gear for archery, lawn tennis, and other games.
Ferris, Boorne, Townsend & Boucher, 4 and 5, Union Street, Bristol.	A collective exhibit of surgical instruments and appliances.
Ditto, ditto	Pure thymol soap.
Firmin & Sons, Ld., 153-5, Strand, London ...	Swords, dirks, military accoutrements.
Ditto ditto ditto ...	Helmets, busbies, and fire helmets.
Fletcher, Fletcher, & Stevenson, London ...	A collection of drugs, medicines, and chemicals.
Ford & Son, W., Leith	Scotch whiskey.
Fordham & Sons, W. B., 36, York Road, London.	Emery glue-powder, glass-paper and knife-powder.
Forester & Sons, Thomas, Longton, Staffordshire	Ornamental pottery.
Fowler & Co., John, Leeds	Permanent-way for light railways.
Ditto ditto	Engines for portable lines with sharp curves.
Garrett & Co., Suffolk	Portable and semi-portable compound engines.
Gateshead Stained Glass Co., Gateshead-on-Tyne.	Stained window glasses.
Gerrard, Edward, Junior, 31, College Place, Camden Town, London.	Group of stuffed *gorillas*.
Gibbs, George, 29, Corn Street, Bristol ...	Match rifle.

Gilbert, Gilkes & Co., Kendal	Vortex turbine (superior motive power for production of electricity).
Gilbey, W. & A., London	Old Tom.
Gillingham Portland Cement Co., Limited, 69, King William Street, London.	Portland cement.
Gillon and Co., John, Leith	Preserved meats.
Ditto ditto	Ditto soups.
Ditto ditto	Ditto fruits.
Ditto ditto	Capers.
Ditto ditto	Sauces.
Ditto ditto	Jams and jellies.
Ditto ditto	Pickles.
Glen, Ross & Co., Glasgow	Steam-hammers by Rigby's patent.
Gosnell & Co., John, London	Brown Windsor soap.
Ditto ditto	Cherry tooth-paste.
Gowland Brothers, Cornhill, London ...	Jewelry.
Grant, T., Maidstone	Cherry cordial.
Greener, W. W.	Implements of the chase.
Gulliver, Samuel, & Co., Aylesbury ...	Aërated waters.
Gwynne, J. & H., London	Centrifugal pumps with engines.
Hadley Brothers, Birmingham	Nails, tacks, and brads.
Hall & Son, John, ditto	Blasting powder.
Hadfield's Steam Foundry Company, Attercliffe, Sheffield.	Railway materials, axles, springs, &c.
Harriman & Co., Wm., Limited, Blaydon-on-Tyne.	Drainage-pipes.
Hartley Brothers, Preston	White lenoes, stripes, checks, twills and jaconets.
Hayward, Tyler & Co., London	A double-barrel hand-pump with wrought-iron frame.
Ditto ditto ...	A portable irrigating-pump.
Ditto ditto ...	The "Universal" steam-pump.
Ditto ditto ...	A collection of brass-work.
Ditto ditto ...	Deep-well pumps, 3″ × 10″, treble-barrel gun metal.
Ditto ditto	Aerated-water machinery, May Davis' patent hand-bottling machinery, Howard's patent wiring-machine.
Heaton & Sons, Ralph, The Mint, Birmingham	Coins and medals.
Hedges & Butler, 155, Regent Street, London	"Jaques" punch.
Ditto ditto ditto ...	Scotch whiskey.
Henry, Alexander, 118, Pall Mall, London ...	Implements of the chase.
Ditto ditto ditto ...	Two highly-finished revolvers.
Herrings & Co., 40, Aldersgate Street, London	Pharmaceutical preparations and drugs.
Hildesheimer & Co., S., London ...	Christmas, wedding, and birthday cards.
Hindley & Sons, Charles, 292, Oxford Street, London, W.C.	Imitation embossed leather for walls.
Hinks & Son, James, Birmingham and London	Lamps.
Hockin, Wilson & Co., 38, Duke Street, Manchester Square, London.	Marking-ink.
Holland & Holland, 98, New Bond Sreet, London.	A collection of implements of the chase.
Holzapfel & Co., M., Quayside, Newcastle-on-Tyne.	Anticorrosive and antifouling compositions for ships' bottoms.

Hopkinson & Cope, London	Printing-press, perforating-machinery, inking-table, and roller-mould.
Horse Nail Co., H. P., Limited, New Road, Wandsworth.	H. P. horse nails.
Hoyle & Sons, Joshua, Limited, 41, Mosley Street, Manchester.	Grey Mexican cloth.
Hunt & Mitton, Birmingham	Fittings for engine and boiler, lubricator hose couplings.
Huxham & Brown's, Exeter	Bark mill and pendulum roller.
Irvine & Sellers, Preston and Liverpool ...	Bobbins and shuttles.
Izod, J., London	Briar-root pipes.
Jennings, George, Lambeth	Water-commodes and lavatories.
Jeye's Sanitary Compounds Co., Limited, London	Jeye's sanitary powder and fluid.
Johnson & Sons, W. W. & R., 10, Fenchurch Avenue, London.	Tea-lead for lining tea-chests.
Ditto ditto	White and red lead.
Johnson Brothers, Hull	Mineral, vegetable, animal, and composite oils.
Johnson & Nephew, Richard, Manchester ...	Steel barb wire fencing.
Jones & Rocke, Wrexham	A collective exhibit of leather.
Joyce & Co., F., London	Patent cartridge-cases.
Keiller & Sons, James, Dundee	Confectionery.
Ditto ditto	A collective exhibit of preserved fruits.
Kenning, George, London	Helmets.
Ditto ditto	Military accoutrements.
Kent, George, London	Knife-machines and churns.
Kennall Gunpowder Co., Penrhyn, Cornwall ...	Gunpowder.
Kerr & Co., James, Winchester Repeating Arms Company, London.	A collection of implements of the chase.
Keeling & Co., D. C., Liverpool	Soap.
Kirby, Beard & Co., 115, Newgate Street, London.	Needles, pins, and hair-pins.
Kirker, Greef & Co., Belfast	"Loch Dhu" Scotch whiskey.
Kirlow & Co., Manchester	Patent linen machine belting.
Knight, Miss Mary, Chelsea, London ...	A large patchwork quilt.
Lancaster, Charles, 151, New Bond Street, London.	Implements of the chase.
Lee Spinning Co., Atherton, Manchester ...	Cotton manufactures, 2 to 18 folds, grey and polished yarns, plain, prepared, and passed.
LeGrande & Sutcliffe, London	Abysinnian tube well-pumps.
Lindsay, W. H., London	Improved patent trough flooring for railways and road-bridges.
Lloyd & Lloyd, Albion Tube Works, Birmingham.	Wrought-iron tubes and fittings.
Lord, J. C. & W., Birmingham	Lamps.
Ditto ditto	Tools and plantation implements.
Ditto ditto	Steam and water cocks and fittings.
Ditto ditto	Wove wire and sieves.
Lostock Hall Spinning Co., Limited, Lostock Hall Mill, near Preston.	A collective exhibit showing cotton in the stages of manufacture, from raw cotton to fine yarn.
Loveridge & Co., Henry, Wolverhampton ...	Hardware, hollowware, &c.

Low, David, Blairgowrie, Scotland ...	Engineers' tools.
Luce, G., 44, King Street, Jersey	Eau-de-Cologne.
Macfarlane & Co., Walter, Saracen Foundry, Possilpark, Glasgow.	Urinals for Natives and Europeans.
Ditto ditto	Ornamental castings.
MacLellan, P. & W., Glasgow	Patent embossed buckle-plates and buckle-plate bridge.
Ditto ditto ditto	Rock-boring machine
Ditto ditto ditto	Improvements in permanent-way for railways.
Ditto ditto ditto	Rolled iron.
Ditto ditto ditto	Model shaft couplings.
Maconochi Brothers, Raglan Works, Lowestoft	Calves' foot jelly.
Ditto ditto ...	European pickles.
Ditto ditto ...	Red herring, digby cheeks, fresh herrings, and bloater paste.
Maignen, P. A., London	Maignen's "Filtre Rapide."
Manfield, H., Northampton	Photo-engravings and photo-collotypes.
Mappin & Webb, London	Electro-plated wares and cutlery.
Marsden, H. R., Leeds	Patent stone-breaker.
Marshall & Co., Aberdeen	Preserved meats.
Ditto ditto	Ditto soup.
Marshall, Sons & Co., Limited, Gainsborough	"Universal" tea-roller.
Ditto ditto ditto ...	6-H.P. vertical engine with 4-H.P. boiler.
Ditto ditto ditto ...	4-H.P. portable engine with straw burner, 10-H.P. portable engine.
Maynard, Harris & Co., 126, Leadenhall Street, London, E.C.	Military accoutrements.
McCaw, Stevenson, & Orr, Belfast ...	"Glacier" window decorations, a substitute for stained glass.
McNaught & Smith, Worcester	Harness.
Merryweather & Co., London	Manual fire-engine.
Milward & Sons, H., Washford Mills, Redditch.	Fish-hooks.
Minton, Hollins & Co., Stoke-upon-Trent, England.	Encaustic tiles, mosaics, &c.
Moncrieff, John, North British Glass Works, Perth.	Water-gauge glasses for steam-boilers
Morris & Griffin, Wolverhampton	Carbolic powders.
Ditto ditto ...	Blacking-paste and writing-fluids.
Ditto ditto ...	Soluble guiano and phosphates, florein.
Morris, Little & Son, Doncaster	Soluble phenyle.
Nasmyth, Wilson & Co., Limited, Patricroft, near Manchester.	Steam-hammer.
Ness & Co., Darlington	Thymo-cresceol and powder.
Nestle, Henri, London	Condensed milk.
Ditto ditto	Milk food for children.
Newall & Co., R. S., Gateshead-on-Tyne ...	Wire ropes.
Nicholson & Son, W. N., Newark ...	Bone-mill and disintegrator.
Ditto ditto ditto ...	Rice-sheller.
Nordlinger & Co., S., 44, Sackville Street, Manchester.	Printed cretonnes.

Offord, Joseph, London	C-spring angular landau.
Ditto ditto	Canoe landau.
Orme, Evans & Co., Wolverhampton ...	Enamelled signboards.
Osborne & Co., Charles, London	Malt vinegar and pickling-vinegar.
Packard & Co., E., Ipswich	Super-phosphates, phosphatic gypsum, dissolved bones, solid phosphoric acid.
Parkinson & Frodsham, 4, Change Alley, London, E.C.	Silver pocket chronometer and other compensated watches.
Patent Pulp Manufacturing Company, Limited, London.	Steel pulpware.
Patent Nut and Bolt Company, Limited, London, Works near Birmingham.	Bolts and nuts.
Peake, Thos., Turnstall	Pottery, tiles, &c.
Pemberton & Sons, Thomas, Birmingham ...	Metalware.
Pennycook Patent Glazing Company, Limited, Glasgow.	Conservatory showing patent system of glazing.
Peyton & Peyton, Birmingham	Brass, brass and iron, and iron bedsteads.
Pictorial World, London	Drawings in black and white.
Pilcher & Sons, J. G. & J., London ...	Mineral, vegetable, animal, and composite oils.
Ditto ditto ...	Paints and varnishes.
Porter, Robert, & Co., 77, Pancras Road, London.	Cider.
Potter, C. & T. G, Belgravé Mills, Darwin ...	Paper-hangings.
Potter, F. W, Finsbury, London	Paper-machine, woven wire dandy rolls, wire letter paper moulds, specimens of water-marks.
Pound & Co., John, Leadenhall Street, London, E.C.	Dressing-bags, &c.
Price's Patent Candle Company, Limited, Belmont Works, Battersea, London.	Candles.
Priory Brass Co., 38, Coventry Street, Birmingham.	Brass and copper fittings.
Randall, H. E., Northampton	Boots, shoes, and slippers.
Reading Iron Works, Limited, Reading ...	Spring-pullies.
Ditto ditto ...	New patent bullock gear.
Reddaway, F., & Co., Manchester ...	Cotton belting.
Renwick, G., Burton-on-Trent	Photographs of snow scenes.
Richmond & Chandler, Manchester ...	Chaff-cutter.
Richardson & Co., J., 20, Artillery Lane, London.	A collective exhibit of perfumery and toilet requisites.
Ditto ditto ditto	Glycerine, almond fancy soaps.
Rimmel, Eugene, London and Paris ...	Perfumery.
Ditto ditto ...	Fancy and bar soaps.
Robinson & Son, Thos., Limited, Rochdale ...	6-H.P. vertical engine and boiler combined.
Rogers, Sons & Co., Henry, Wolverhampton ...	Axles and springs.
Ross & Co., W. A., Belfast	Cordials and syrups.
Rowcliffe, J. B., & Co., Sanitary Wire Mattress Works, Glossop, Manchester.	Combined brass and iron bedsteads and wire mattresses for hospital, boardship, and private use.
Russell & Co., John, Limited, London ...	Wrought-iron tubes and steam, water, and gasfittings.

Ruston, Proctor & Co., Lincoln	12-H.P. horizontal semi-portable compound engine.
Ditto ditto ...	Portable engines.
Rylands Brothers, Limited, Warrington ...	Iron telegraph-wire.
Samuelson & Co., Banbury	Reaping and mowing machine.
Saunders & Shepherd, London	Silver jewelry.
Saynor, Cooke, & Ridal, Sheffield	Cutlery, garden-knives.
Scollick & Co., A. G., London	Steam-joint mastic and paint.
Selby & Co., Frederic, Longmore Street, Birmingham.	Axles, springs, and general coach-iron work.
Self-opening Tin Box Company, London ...	Tin boxes for packing and pressing food.
Sell & Co., D., London	Scotch whiskey.
Sharp, Stewart & Co., Limited, Manchester ...	Lathes.
Ditto ditto ditto ...	Screwing-machine, Sellar's patent.
Shatwell & Co., H., Macclesfield	Sarsnet.
Silber & Fleming, 67, Wood Street, London ...	Catalogue of engravings and lithographs.
Silicate Paint Co., London	Silicate paint.
Sinclair, J., London	Chemical extincteur.
Sinclair & Co., R., London	Shirts, wool, cotton, and tweed.
Skitt & Co., John, 93, Summer Street, Southwork Bridge Road, London.	Paint oils.
Smith, George, & Co., Sun Foundry, Glasgow...	Cast-iron stable fittings.
Ditto ditto ...	Ornamental castings.
Ditto ditto ...	Model City Line S.S. "City of Calcutta."
Smith & McLean, Glasgow	Galvanised corrugated iron.
Solly & Co., Allen, London	Banians, drawers, socks, and stockings.
Soutter & Son, W., Birmingham	Brass and copper hollowware.
Sowerby's Ellison Glass Works Company, Limited, Gateshead-on-Tyne.	Plain and coloured ornamented glass.
Spalding & Hodge, 34, Cannon Street, London	Papers of various kinds, bills-of-exchange, cheque-forms, &c.
Sparkbrook Manufacturing Company, Coventry	Tricycles.
Spong & Co., London	Patent pneumatic fire extinguisher.
Stephens, H. C., 191, Aldersgate Street, London.	Stains for wood.
Steward, J. H., 406, Strand, London ...	Meteorological instruments.
Stiff & Sons, James, Lambeth, London ...	Weaver's ventilating sewer air trap.
Ditto ditto	Terra cotta.
Ditto ditto	Battery jars and porous cells.
Sugg & Co., W., London	Gas lamps and burners.
Sutton & Sons, Reading	Horticultural seeds and ornamental glasses.
Swainson, Birley & Co., Fishwick Mills, Preston.	White lenoes, stripes, checks, mulls, and jaconets.
Swan & Edgar, Piccadilly Circus, London ...	Gossamer waterproof garments.
Symington & Co., W., Bowden Steam Mills, Market Harborough.	Pea-flour Egyptian food.
Ditto ditto ditto ...	Taraxacum or dandelion coffee.
Tangye Brothers & Holman, London ...	Cameron patent pumps.
Tann, John, London	Safes and locks.
Templeton & Co., James, Glasgow and London	Machine-made carpets.
Tennant, J. & R., Well Park Brewery ...	Pale ale and stout.

Thomas & Co., J. J., London	Cages.
Thornhill & Co., W., London	Novelties in umbrellas.
Ditto ditto	Dressing-bags.
Thurston & Co., London	Billiard table and accessories, and Thurston's composition billiard balls.
Thwaites Brothers, Bradford, Yorkshire ...	Three-cwt. self acting steam-hammer.
Ditto ditto ...	Blower.
Ditto ditto ...	The "Vulcan" portable forge.
Ditto ditto ...	A smith's hearth.
Tin Plate Decorating Company, Neath ...	Decorated tin plates and boxes.
Tootal, Broadhurst, Lee & Co., Manchester ...	Collection of cotton, raw, through different stages of manufacture up to fine yarn.
Torbay and Dart Paint Company, Limited, London.	Paints.
Torquay Terra Cotta Company, Limited, Torquay	Terra-cotta art pottery.
Townson & Mercer, 89, Bishopsgate Street Within, London, E.C.	Chemical and physical apparatus.
Trier, Mayer, & Co., 47, High Street, Borough, London.	Hops.
Trubner & Co., 57, Ludgate Hill, London ...	Educational works.
Tulloch & Sons, W., London	Capers.
Ditto ditto	Olives.
Ditto ditto	Salt.
Ditto ditto	Olive oil.
Turner & Wood, Stoke-on-Trent	Parian statuary.
Turner, E. R. & F., Ipswich	Corn and malt-crusher.
Tylor & Sons, J., 2, Newgate Street, London ...	Aërated-water machinery and bottling-machines of sizes.
Ditto ditto ...	Earthenware lavatories.
Ditto ditto ...	Pumps.
Ditto ditto ...	Fire-engines.
Ditto ditto ...	Hospital bath on wheels and hospital slop sink.
Ditto ditto ...	Waterphone and sound-conductor.
Tyzack & Co., Samuel, Sunderland ...	Metallurgic products.
Vale & Co., H., 219, Summer Lane, Birmingham.	Spectacles, sun-shades, &c.
Vaughan Jones, E., London and Glasgow ...	Jamaica rum.
Ditto ditto ...	Old Tom.
Veitch-Wilson, J., & Co., 36, Victoria Street, Manchester.	Lubricating oils.
Walker & Co., A. H., Eagle Works, Dudley ...	Galvanized buckets, pails, scoops, &c.
Walters & Sons, D., 44, Newgate Street, London.	Satins, velvets, brocades, and other upholstery silks.
Warner, Robert, F.R.H.S., Chelmsford, Essex	Books on select orchadaceous plants with hand-painted drawings.
Warner & Sons, John, Crescent Foundry, London, E.C.	"Essex" direct-action steam-pumps.
Ditto ditto ...	Donkey-pump (steam or hand).
Ditto ditto ...	Annular sail wind-engine.
Ditto ditto ...	Water-wheel.
Ditto ditto ...	Treble ram-pump.
Ditto ditto ...	Chain-pumps.

Warner, & Sons, John, Crescent Foundry, London, E.C.	Rotary hand-power irrigator.
Ditto ditto ...	Sewage-pumps.
Ditto ditto ...	Horse and bullock gear for deep-well steam-pumps.
Ditto ditto ...	Rotary garden-engine.
Ditto ditto ...	Garden-syringes.
Ditto ditto ...	Brass deep-well pumps.
Ditto ditto ...	Brass and iron pumps.
Ditto ditto ...	Portable fire-engines, steam-engine, "The Walton."
Ditto ditto ...	Brass taps, plumbers', and water-work fittings.
Ditto ditto ...	Church and hand bells.
Waterlow & Sons, Limited, London and Calcutta.	Plain and water-marked papers for bank-notes, cheques, &c.
West & Co., H. J., London	Ice-making machinery, ether principle.
Westley, Richards & Co., Limited, London ...	Implements of the chase.
Whitehouse & Co., Tipton Hall Iron and Chain Works.	Corrugated iron for roofing.
Wilkinson & Son, 1, Skinner Street, London ...	Gold guard-rings.
Willesden's Patent Waterproof Paper and Canvas Company, Limited, 34, Cannon Street, London, E.C.	Structure of Willesden's patent paper.
Wilson Brothers, Todmorden, and 14, Market Place, Manchester.	Bobbins, tubes, and skewers.
Wilson & Bentley, London	Bookbinder's cloth.
Wing, George, Plane Tree Works, Sheffield ...	*A collection of carved-pattern* knives, &c.
Winstone & Son, B., Shoe Lane, London ...	Printing-inks and lithographic press.
Witt, George Pawsey, London	Rice hulling and cleaning machine.
Wright, Frank, Kensington, London ...	Unfermented wine and fruit essences.
Yarrow & Co., London	River steamers.
Yates, John, & Co., Birmingham	Tools, plantation implements.
Yeatman & Co., 119, New Bond Street, London	Calisayne cocktail bitters.
York & Son, 78, Lancaster Road, Nothinghill, London.	Photographic lantern slides.
Yorkshire Varnish Company, Ripon ...	Varnishes and albarine.

Certificate of the Second Class with Bronze Medal.

Adams & Richards, Bridge Street, Wednesbury	Axles and springs.
Aaron, Sons & Co., 13, Jewin Street, London ...	Cheap umbrellas.
Asquith, Wm., Halifax...	Lathe, screw-cutting slotting machine, drilling-machine.
Atkinson & Philipson, Newcastle-on-Tyne ...	Whitechapel cart.
Atmospheric Churn Company, 119, New Bond Street, London, W.	Ice-cream making machine.
Austin & Dodson, Cambria Works, Sheffield ...	Engineers' tools.
Avery, W. & T., London and Birmingham ...	Weighing-machines for chemical works and tanneries.
Bailey & Co., W. H., Salford	Bailey's hot-air engine.
Barnett & Foster, London	Aërated waters.
Ditto ditto	Soda-water machinery, filling-machinery, patent bottles.

Becker, F. E. & Co., 34 Maiden Lane, Covent Garden, London.	Chemical and physical (philosophic) apparatus.
Belfast Rope Work Company, Limited, Belfast	Ropes, lines, and twines.
Bevington, Thomas, Hanley, Staffordshire ...	Victoria-ware.
Bolling & Lowe, Lawrence Pountney Hill, London.	Stock and rails for hand-shunting lines.
Boote, T. & R., Burslem, Staffordshire ...	Encaustic, mosaic, and ornamental tiles.
Ditto ditto	Pottery.
Box & Co., Dudley	Anvils.
Ditto ditto	Vices.
Bratby & Hinchliffe, Sandford St., Ancoats, Manchester.	Essences.
Ditto ditto ditto ...	Bottles, syphons.
Brecknell, Turner & Co., London	Saddle and skin soaps.
Brown & Co., Wm., London	Stationery.
Brown & Co., J. & H., Ettrick Mills, Selkirk, Scotland.	Fancy woollen tweeds.
Burgess, W. J. & C. T., Brentwood, Essex, & London.	Water-lift for hand or bullock power.
Burgoyne, Burbridges, Cyrax, and Farries, 16, Coleman Street, London.	Drugs and medicines.
Burroughs, Wellcome & Co., Snow Hill Buildings, London.	Elixoids, hazeline.
Ditto ditto ditto ...	Dialysed iron, hypodermic tablets, Wyeth compressed tablets.
Capell, R. A., London	Thermantidote.
Causton & Sons, Sir Joseph, 47, Eastcheap, London, E.C.	Iron show tablets.
Cochrane & Co., Birkenhead	20-H.P. vertical boiler.
Codd & Rylands, London	Patent globe-stoppered aërated-water bottles.
Cradock & Co., George, Wakefield ...	Iron and steel wire ropes.
Craven, Dunnill & Co., Limited, Jackfield Works, near Iron Bridge, Shropshire.	Encaustic, mosaic, and ornamental tiles.
Ditto ditto ditto ...	Porcelain and pottery.
Dale, H. & E. J., 26, Ludgate Street, London...	Camera with double back and Dale's patent duplex back.
Ditto ditto ditto ...	Chemical and physical (philosophic) apparatus.
Dales, John T., 287, Crystal Palace Road, London, S.E.	Dubbin.
Daniell, S. A., Birmingham	Copying-presses and dies.
Ditto ditto	Engineers' tools.
Dean & Son, 160, Fleet Street, London ...	Illustrated books for children.
DeSell & Co., London	Brandy.
Dick, Kerr & Co., 101, Leadenhall Street, London.	Permanent-way for light railways.
Ditto ditto ditto ...	Engine for permanent light railway.
Dixon, A. A., London	Permanent-way for railways.
Doulton & Co., Lambeth, London ...	Radiating tile stoves.
Ditto ditto ...	Terra cotta.
Ditto ditto ...	Professor Bernay's manganous carbon filter.
Ditto ditto ...	Telegraph-pipes for underground wires, with water-tight joints.
Dunkerley & Sons, Joseph, Macclesfield ...	Silk scarves and handkerchiefs.

Eagle Edge Tool Co., Ld, Eagle Works, Wolverhampton.	Plantation tools and implements.
Easterbrook, Allcard & Wild, Sheffield ...	Models of engineers' hand-tools and railway-tools.
Edgington, Benjamin, 2, Bridge Street, London Bridge, London, S.E.	Tents.
Ellwood & Sons, John, 24, Great Charlotte Street, Blackfriars Road, London.	Hats, caps, and helmets.
Engert & Rolfe, Barchester Street, Poplar, London.	Felt.
Evans, Lescher & Webb, 60, Bartholomew Close, London.	Laver's druggists' and Hawley's counter adjuncts.
Evans, Sons & Co., 56, Hanover Street, Liverpool.	Montserrat lime-juice preparations.
Evans & Son, J., Wolverhampton ...	Tomkin's patent Cornish steam-pumps.
Ditto ditto	Ordinary hand-pumps, lift and force hand-pumps, deep-well and galvanised well-pumps.
Eyre & Spottiswoode, London	Electro-plated ware.
Farmer, Robey, Brown & Co., Gainsborough ...	8-H.P. portable engine, 3-H.P. portable engine, 3-H.P. vertical engine with boiler.
Farnley Iron Co., Limited, Leeds, Yorkshire ...	Glazed bricks.
Fell & Co., Ld., Thomas, Newcastle-on-Tyne ...	Earthenware.
Flatau & Co., A. & W., London and Northampton	Boots, shoes, and slippers.
Fowler & Co., John, Leeds	Rolling-stock for light railways.
Francis & Co., London	Portland cement made in Europe.
Fraser & Co., A. B., Liverpool	"Acme" patent spring safety valve.
Gandy, Maurice, 5, Ansdell Street, Liverpool ...	Cotton belting.
Gibbs, George, 29, Corn Street, Bristol ...	Implements of the chase.
Gilbey, W. & A., London	Port.
Ditto ditto	Brandy.
Gillon & Co., John, Leith	Cordials.
Ditto ditto	Potted fish of all kinds.
Glenboig Union Fire Clay Co., Ld., 4, West Regent Street, Glasgow.	Fire bricks and clay.
Gosnell & Co., John, London	Brushware for the toilet.
Gould, Job, Yeovil, Somerset	Cords and twine.
Greenwood & Batley, Leeds	Lathe.
Greig & Co., Regent's Works, Edinburgh ...	Greig's tea-roller.
Griffin & Co., T. P., London	Sparkling ale.
Gulliver & Co., Samuel, Aylesbury ...	Whiskey, curaçoa.
Gutierres, Flugel & Co., 26 Mark Lane, London	Sherries.
Harper & Co., Aberdeen	Model of wire suspension foot bridge.
Harris, H., Northampton	Boots, shoes, and slippers.
Harrison, John, Linthorpe	"Linthorpe" art pottery.
Hayward, Tyler & Co., London	4-H.P. "Brahma" horizontal engine and boiler.
Ditto ditto	A Californian pump.
Ditto ditto	Sankey and Barrett's patent syphon bottles.
Hazlehurst & Sons, Camden Works, Runcorn ...	Soaps.
Hemingway & Co., Trafalgar Street, Bradford	Baking-powder and corn-flour.
Hendry, Whyte, & Strachan, National Floor-cloth & Linoleum Works, Kircaldy, Scotland.	Floor-cloth and linoleum.

Henry, Alexander, 118, Pall Mall, London ...	Army revolver.
Ditto ditto ...	Double-barrelled pistol.
Hepburn & Gale, London	Leather belting.
Hewlett & Son, Charles J., 49, Charlotte Street, Shoreditch, London.	Pharmaceutical preparations and drugs.
Hillman, Herbert & Cooper, Premier Works, Coventry.	Tricycles.
Hindley, E. S., Dorset	Double-barrel single *action* pump.
Hockin, Wilson & Co., 38, Duke Street, Manchester Square, London.	Seidlitz powders and chemicals.
Holland & Co., Deptford Distillery, London ...	Unsweetened *gin*.
Hollis, Isaac, Birmingham	A collection of implements of the chase.
Holt, Box, & Co., Willenhall	Brass locks and padlocks.
Ditto ditto	Japanned and *galvanised* padlocks.
Hudson, Robert, Gildersome Foundry, near Leeds.	Stock and rails for hand-shunting lines.
Humphries, E., Pershore, Warwickshire ...	10-H.P. portable steam-engine, 2 cylinders, a vertical steam-engine and boiler combined.
Huxham & Browns, Exeter	Steam-pumps.
Jeffries & Co., Wood Street, Woolwich ...	Gear for archery, lawn tennis, cricket, and other games.
Jenkinson & Co., W., 44, London Wall, London	A collection of harness.
Johnson & Co., Christopher, Sheffield ...	Cutlery.
Johnson & Nephew, Richard, Manchester ...	Fencing materials, wire standards.
Johnson Brothers, Hull	Dry colour and white lead.
Johnston, Harvester, Co., Ld., London ...	"Harvester" Johnston's patent.
Jones Brothers, Ld., Middlesborough ...	Boiler-plates.
Jones & Co., Frederick, Perrin Street, London	Silicate cotton.
Joseph & Co., B. H., Birmingham	Jewelry.
Keiller & Sons, James, Dundee	Jams, jellies, and *marmalade*.
Kennedy's Patent Water-Meter Co., Kilmarnock	Kennedy's patent water-meter.
Kenrick & Sons, Archibald W., Bromwich ...	"Enterprise" *drug*-mill.
Kinmond, J. C., Leamington	Tea-roller.
King Harrison, Geo., The Lye Fire-clay and Brick Works, Lye, near Stourbridge, England.	Fire bricks and clay.
Kirkman & Co., London	Grand pianofortes.
Ditto ditto	Upright cottage pianos.
Lancaster, Charles, 151, New Bond Street, London, W.	Four-barrelled pistols.
Ditto ditto ditto ...	Military rifles.
Lancaster, Alfred, 27, South Audley Street, Grosvenor Square, London.	Implements of the chase.
Lawrence & Porter, England	Centrifugal pump.
LeRoy & Co., London	Patent cement for preventing loss of steam in boilers and pipes and undue *heat in engine*-rooms.
Levi, J., & Co., London	Surveying and nautical instruments.
Light, C. & R., London	Furniture.
Lillywhite, Froude & Co., James, 4, Newington Causeway, London, S.E.	Gear for archery, lawn tennis, cricket, and other games.
Lord, J. C. & W., Birmingham	W.-I. fire-proof safes and chests.

Lord, J. C. & W., Birmingham	Collection of hardware, locks, padlocks, and engineers' tools.
Ditto ditto	Mill banding, &c.
Lorrimer & Co., 42 & 44, Hargrave Park Road, London.	European essences.
Ditto ditto ...	Drugs and medicines.
Ditto ditto ...	Syrups and cordials.
Loudon Brothers, Glasgow	Pumps.
Ditto ditto	Workshop machine and tools.
Mackay, A. & B., Glasgow	"Glen Falloch" Scotch whiskey.
Maignen & Co., Normandin, Great Tower Street, London.	Sparkling sauternochampagne.
Main & Co., A. & J., 25, Hope Street, Glasgow	Galvanised iron building adapted for a tea factory.
Ditto ditto	Stock and rails for hand-shunting lines.
Ditto ditto	Fencing materials, wire standard.
Malkin, Edge & Co., Burslem	Encaustic tiles and mosaics.
Marshall, Sons & Co., Ld., Gainsborough ...	"Eureka" tea-sorting machine.
Ditto ditto ditto ...	Flour-mills.
Martin & Son, London	Spectacles, sunshades, &c.
Mason & Sons, D., Birmingham	Harness.
Massey, B. & S., Manchester	Steam hammer.
Max Sugar, London	Ornamental glassware.
Maynard, Harris & Co., 126, Leadenhall Street, London, E.C.	Military tunic and trimmings.
Merryweather & Co., London	Deep-well pump.
Moreton & Co., H., 90, Cannon Street, London, E.C.	The "Wallace" entrenching tools.
Muller, H. L., Birmingham	Alpha portable gas-making machine.
Nettlefolds, Ld., Birmingham	Storer's patent suet lubricator with special adaptation for locomotives.
Newall & Co., R. S., Gateshead-on-Tyne ...	Iron, steel, and copper ores.
Newcastle Chilled Shot Co., Ld., Gateshead-on-Tyne.	Chilled shot.
Newland & Co., E., Coventry	Horizontal high-pressure steam-engines.
Nicholls & Co., F. V., Jermyn Street, London, S.W.	A collection of harness.
Patterson & Cooper, London	Electric bells.
Patteson, J. H., Oxford Street, Manchester ...	Encaustic, mosaic, and ornamental tiles.
Peace, W. K. & C., Eagle Works, Sheffield ...	Files, steel-edge tools, hammers, and engineers' tools.
Penman & Co., Glasgow	A Lancashire and a Cornish steam-boiler.
Piggott & Co., T., Birmingham	Ice-making machinery, ether principle.
Player, W. J. J., Engineer, Lionel Street, Birmingham.	Forging-hammer, bench planishing hammer.
Potosi Company, Birmingham	Potosi-metal spoons and forks.
Potter, F. W., Finsbury, London	Copper-covered telegraph-wire.
Pound & Co., John, Leadenhall Street, London, E.C.	Cutlery.
Prevet & Co., C., London	Preserved dried vegetables.
Ditto ditto	Compressed, dried, preserved soups.

Price, Geo., Wolverhampton	Iron safes.
Pulsometer Engineering Company, London ...	Pulsometer-pumps.
Ramsden, Camm & Co., Brighouse, Yorkshire.	Iron and steel wire, &c.
Ransomes, Sims & Jeffries, Ld., Ipswich and London.	6-H.P. portable steam-engine arranged for straw fuel.
Rawson Brothers, Sheffield	Cutlery.
Reid & Co., Ben., Aberdeen	Hand-threshing machine.
Reilly & Co., E. M., London	Implements of the chase.
Reynolds & Sons, John, Crown Cut Nail Works, Birmingham.	Cut nails and tacks.
Reynolds & Co., F. W., Acorn Works, Blackfriars, London.	A collection of wood-working machines.
Richards & Atkinson, Manchester ...	Light-wood working machinery.
Ditto ditto ...	Wrought-iron pulleys.
Ditto ditto ...	Hangers and shafting.
Richards & Co., Theo., Birmingham ...	Edge-tools.
Robey & Co., Lincoln	20-H.P. horizontal engine, 4-H.P. vertical engine and boiler.
Ditto ditto	Threshing-machine.
Robins & Co., Limited, Defrie's Victoria Brand, London.	Defrie's Victoria-brand Portland cement.
Rock Brothers Ld., London	Account-books and office requisites.
Rowland, Ward & Co., 166, Piccadilly, London.	Natural history collection.
Rucker, Jr., & Co, M. D., Letchford's Buildings, Bethnal Green Junction, London, E.	Bicycles.
Ruston, Proctor & Co., Lincoln	Centrifugal pumps.
Rylands Brothers, Limited, Warrington ...	Fencing materials, wire standards.
Samuell & Son, A., London	Repeaters, chronographs, calendar watches, &c.
Scott & Sons, G. W., Old Compton Street, Soho, London, W.C.	Blue and white enamelledware.
Ditto ditto ditto ...	Metal canteen fitted with cooking appliances.
Shanks & Son, Alexander, Arbroath and London.	Compound double action steam-engine with boilers. "Caledonian" horizontal steam-engine.
Sheldon & Co., Canon Foundry, Deepfields ...	Tin and enamelware.
Silicated Carbon Filter Company, London ...	Silicate carbon filters.
Skidmore, H. P., Atlas Tube Works, Netherton, near Dudley.	Tubes and fittings for gas, steam, and water, stocks, taps, dies, &c.
Ditto ditto ditto ...	Garden-seats.
Skinner & Co., Thos., Exeter	Aërated waters.
Smith & McLean, Glasgow	Corrugated and enamelled iron roofing.
Société des Lunetiers, London	Scientific instruments and optical glasses.
Ditto ditto	Spectacles, sunshades, &c.
Souttar & Son, W., Birmingham	Gas chandeliers.
Steward, J. H., 406, Strand, London ...	Surveying and nautical instruments.
Stiff & Sons, James, Lambeth, London ...	Weatherly disconnector, waste-water trap.
Storey & Sons, Isaac, Manchester	Finished brassworks, steam valves.

Summers & Co., William, Milk Street, Bristol	Aërated waters.
Thomas & Co., J. J., London	Garden furniture.
Ditto ditto	Wire-work for gardens.
Thomson & Co., Grace Church Street, London	Corrugated and enamelled iron roofing.
Thornhill & Co., W., London	Cutlery.
Tullis & Son, John, St. Ann's Leather Works, Glasgow.	Cotton belting.
Tulloch & Sons, W., London	Pickles.
Ditto ditto	Sauces.
Ditto ditto	Curry-powder.
Turnbull, Matthew, Sunderland	Pressed glassware.
Turner, E. R. & F., Ipswich	Vertical engine and boiler.
Turner, Naylor & Marples, Sheffield ...	Edge-tools, engineers' tools, joiners' tools, planes, hammers, &c.
Tylor & Sons, J., 2, Newgate Street, London ...	Positive water-meter.
Vyse, Sons & Co., 76, Wood Street, London ...	Perfect safety canopy cot.
Wagner & Gerstley, London	Silver jewelry.
Warner & Sons, John, Crescent Foundry, London, E.C.	Brass steam fittings.
Ditto ditto ...	Copper cooking utensils.
Ditto ditto ...	Galvanised-iron pump for liquid manures.
Ditto ditto ...	Aquaject in pail, police fire-engine.
Ditto ditto ...	Water-barrows.
Ditto ditto ...	Boilers and vertical, diagonal, and horizontal steam-engines.
Ditto ditto ...	Centrifugal pumps.
Ditto ditto ...	Water-cooling apparatus.
Webley & Son, P., Birmingham	Implements of the chase.
Ditto ditto	A collection of revolvers.
Westley Richards & Co., Limited	Match rifle, sights, &c.
Whitecross Wire and Iron Company, Limited, Warrington.	Galvanised wire, rolled and drawn iron and steel wires, telegraph and telephone wires, galvanised stands, &c.
Whitfield & Co., F., Birmingham	Iron safes.
Whitehouse & Co., Tipton Hall Iron and Chain Works, Tipton.	Fire-bricks and clay.
Wills & Son, A. W., Park Mills, Neckhills, Birmingham.	Plantation tools and implements.
Wilson & Co., A., London	"Vauxhall" donkey steam-pump, and excelsior horizontal steam-pumps.
Wright & Butler, New John Street West, Birmingham.	Lamps.
Wright & Co., George, 164, Westminster Bridge Road, London, S.E.	Neoteric billiard and dining-table.
Yarrow & Co., Poplar	Model and designs of a stern-wheel steamer for Indian river navigation.
Yates & Co., John, Birmingham	Augurs, plane irons, hammers, carpenters' tools, &c.
Young's Paraffin Light and Mineral Oil Co., Ld., 7, West George Street, Glasgow.	Lamps.
Zuccato & Wolff, 19, Charterhouse Street, Holborn Viaduct, London.	"Typograph" writing and copying apparatus.

Certificate of the Third Class.

Atmospheric Churn Company, 119, New Bond Street, London, N.	Granite enamelledware.
Ayres, F. H., London	Gear for archery, lawn tennis, cricket, and other games.
Barker, J. D., Glasgow	Fancy printed cotton umbrellas.
Box & Co., Dudley	Drawing-instruments and scales.
Ditto	Bolts and nuts.
Ditto	Chains and rivets.
Brathy & Hinchliffe, Sandford Street, Ancoats, Manchester.	Machinery for making aërated waters.
Briggs & Co. 3, Marsden Square, Manchester...	Transferring paper for embroidery.
Bristol Waggon Company, Limited ...	Croyden cart.
Britannia Company, Colchester, England ...	Lock-stitch sewing-machines.
Ditto ditto	Self-acting foot-lathes.
Brown & Co., William, London	Stationery.
Burrell & Sons, C., Thetford	Portable engines.
Camuset, Jules, Great Tower Street, London ...	Champagne wine.
Cathcart, G. & E., Ayr	"Carrick" Scotch whiskey.
Clarke, Samuel, Pyramid Night Light Works, Child's Hill, London.	Pyramid night lights and warmers.
Clarke & Sons, W. G., Anchor Patent Biscuit Works, Limehouse, London.	Flour.
Coates & Co., D., Plymouth	Plymouth gin.
Cochrane, J., Glasgow	Self-acting or hand steam-hammer.
Ditto ditto	Horizontal high pressure expansion steam-engines with boilers.
Coventry Machinists' Company, Limited ...	Tricycles and bicycles.
Dickson Brothers & Co., Waverley Works, Sheffield.	Files, hammers, and edge-tools.
Disturnal & Co., Richard, Wednesbury ...	Axles and springs.
Doulton & Co., Lambeth, London	Sewer-gas interceptor.
Ditto ditto	Mud-intercepter.
Ditto ditto	Plumbago crucibles.
East Yorkshire Cart and Waggon Company, Limited, Beverley.	Iron axles and wheels.
Edgington, Benjamin, Bridge Street, London Bridge.	Trestle hammock.
George & Co., R. J., Swansea South Wales ...	Fencing materials, wire standards.
Gilbey, W. & A., London	Sherries.
Ditto ditto	Scotch whiskey.
Ditto ditto	Quinine sherry.
Haggie Brothers, Gateshead-on-Tyne ...	Wire ropes for collieries.
Hemingway & Co., S., Trafalgar Street, Bradford.	Dry soap.
Henry, Alexander, 118, Pall Mall, London ...	Breech-loading military rifle.
Hepton & Son, Wm., Hunslet Lane, Leeds ...	Brass fittings for gas, steam, and water, copper works for various purposes.
Hindley, E. S., Bourton, Dorset	"Alcafar" 3-H.P. engine and 4-H.P. boiler combined on wheels and shafts, 3-H.P. diagonal engine and boiler on wheel and shafts, 4-H.P. horizontal engine.

Hindley, E. S., Bourton, Dorset	Saw-bench with hand circular saw, tenoning and spoke-ending apparatus.
Hornsby & Sons, R., Lincolnshire ...	Portable engines.
Lee & Hunt, Nottingham, England ...	Combined vertical "Arkwright" engine and boiler.
Ditto ditto	Self-acting foot-lathes.
Lennan & Son, Dublin	Collective exhibit of harness.
Lion & Co., A. J., Type Street, Finsbury, E.C.	Boots, shoes, and slippers.
Lalor, Dr., London	Phosphodyne.
Loth, Dr. J. T., Atholl Place, Edinburgh ...	Educational books.
Loudon Brothers, Glasgow	Horizontal engine.
MacLellan, P. & W., Clutha Iron Works, Glasgow.	Plate-bending, punching, shearing, and rail-bending machines.
Marshall & Co., Aberdeen	Preserved fish.
McEwen & Co., Abbey Road Works, Stirling N. B.	Perambulators.
Mills, James, Executors of the late, Bradbury, near Stockport.	Pins and keys for holders, &c.
Mojon Montandon & Co.	Gold and silver watches.
Mumford, A. G., Colchester	Donkey-pumps, deep-well 3-barrel pumps.
Naether	Folding chairs and tables; hammocks.
Nubian Manufacturing Company, London ...	Furniture polish.
Patent Tram Materials Company, Ld., London	Permanent-way for tramways.
Pollock & MacNab, Manchester ...	Drilling-machines and lathes.
Prince & Symmons, London	Lamps.
Pulsometer Engineering Company, London ...	Vertical boilers.
Reading Iron Works Co., Limited, Reading ...	Engine and boiler.
Sheldon & Co., Edward, Canon Foundry, Deepfields.	Safes.
Simpson & Rook, 9 & 10, Little Britain, London	Helmets and caps.
Sinclair, J., London	Dick's patent manual fire-engine and irrigator.
Smith & Gibb, Manchester, London and Glasgow.	Scotch whiskey.
Thomson & Co., D. J., St. Anthony's Distillery, Leith.	Old Tom.
Ullmers, F., London	Printing and paper-cutting machinery.
Vezey & Co., Bath	Mail phæton.
Warner & Son, John, Crescent Foundry, London, E.C.	Copper portable hospital baths.
Watson, Dr. J. Forbes, London	Hats and helmets.
Whitehouse & Co., Tipton Hall Iron and Chain Works, Tipton.	Patent self-acting lubricator.
Witt, G. P., London	8-H.P. horizontal steam-engine, steel for boilers, ship plates and fittings.

Certificate of the Fourth Class.

Bagnall, W. G., Stafford	Permanent-way for light railways.
Bodega Company, Ld., South Exchange Place, Glasgow.	Scotch whiskey.
Bristol Waggon Co., Ld.	Phæton with hood.
Field, Sons & Co., 28, Mincing Lane, London...	Scotch whiskey.
Gilbey, W. & A., London	Champagne wine.

Gilbey, W. & V., London	Claret.
Lewis, G. E., Birmingham	Collective exhibit of implements of the chase.
Llewellin's Patent Machine Co., Bristol and Glasgow.	Time-checking machine for workmen.
Mackie & Co., Glasgow	Scotch whiskey.
Millar & Co., A.	Irish whiskey.
MacLellan, P. & W., Clutha Iron Works, Glasgow.	Shearing and angle-iron cutting-machine.
Perrer, M. A.	Cheap metal and silver watches.
Richards, J. M., Great Russell Street, London, W.C.	Lactopeptine.
Rigold & Bergmann, Bishopsgate Street Within, London, E.C.	Gilt and coloured picture frame mouldings.
Rodgers & Co., Slater	"Thistle blend" whiskey.
Scott Brothers, Halifax	Lathes, slotting-machine, and pillar-drilling machine.
Turner & Sons, R., Old Factory, Redditch ...	Fish-hooks.
Vannan, A. & R.	Scotch whiskey.
Wagner & Gerstly, London	Cheap metal and silver watches.

Certificate of the Fifth Class.

Bagnall, W. G., Stafford	Rolling-stock for light railways.
Ditto ditto	Engines for portable lines with sharp curves.
James & Co., Enos., Birmingham	Collective exhibit of implements of the chase.

BRITISH GUIANA.

Certificate of the First Class and of Gold Medal.

Commissioner for British Guiana	Rum from various plantations.
Exhibition Committee	Tonka beans.
Ditto	Gum caraman.
Ditto	Balsam copaiba.
Ditto	Nuts.
McTurk, W. M.	Woods.
Plantation "Enterprise"	Sugar (non-chemical crystals).

Certificate of the First Class with Silver Medal.

Carruthers, Mrs.	Pickles.
Couchman, G.	Locust gum.
Exhibition Committee	Collection of bitters.
Ditto	Pickles.
Ditto	Photographs of emigrants' quarters.
Ditto	Sweet cassava flour, tannia flour, plantain meal, cassava bread.
Ditto	Guinea pepper and dried pepper.

Exhibition Committee	Gillbacker glue.
Merriman, W.	Ditto.
Murphy, J. P.	Bitter cassava flour, plantain meal.
Plantation "Cane Grove"	White sugar.
Ditto "Houston"...	Cocoa beans.
Stevson, A. C.	Pickles.

Certificate of the Second Class with Bronze Medal.

Bremner, John, Jr.	Collection of barks.
Campbell, John	Bitters.
Carruthers, Mrs.	Bread-fruit flour and plantain meal.
D'Almado, Francisco	Bitters.
Exhibition Committee	Guava marmalade and jelly.
Ditto	Collection of South American native Indian products and manufactures.
Ditto	Cayenne pepper.
Ditto	Balata plaited, &c.
Ditto	Gum hyawa.
Ditto	Arabian coffee.
Ditto	Silk, grass, and other fibres.
Merriman, W.	Shark-oil and comb-fish oil.
Ditto	Isinglass.
Murphy, J. P.	Snapper glue.
Ditto	Cocoa beans.
Plantation "Chateau Margot"	White and yellow sugar.
Ditto "Hamburg"	Muscavado sugar.
Ditto "Peter's Hall"	Sugar.
Ditto "Reliance"	Ditto.
Ditto "Taymouth Manor"	Ditto.
Ditto "Tuschen de Vrienden" ...	Ditto.
Scott & Co., Demerara	Honey.
Smith, W.	Cocoa beans.
Stevson, A. C.	Cassava flour.
Vieira, C. F.	Aromatic bitters.

Certificate of the Third Class.

Edward, Seon	Collection of barks.
Exhibition Committee	Oilseeds.
Ditto	Preserved golden apple and cherry.
Ditto	Laurel oil.
Ditto	Balls of Touckong or Comacobally gum.
Plantation "Cornelia Ida"	Sugar.
Ditto "Farm"	Do.
Ditto "Hampton Court"	Sugar refining crystals.
Ditto "Leonora"	Ditto ditto.
Ditto "L'Union"	Sugar.
Ditto "Mara"	Sugar refining crystals.
Ditto "Versailles"	Sugar.
Ditto "Windsor Forest"	Yellow grocery sugar.
Stevson, A. C.	Koomaka cotton and silk cotton.

Certificate of the Fourth Class.

Plantation "Houston"	...	...	Yellow sugar.
Ditto "Met-en-Meerzorg"	...	...	Sugars.
Stevson, A. C.	...	...	Stewed guava jelly.

CEYLON.

Certificate of the First Class and of Gold Medal.

Agar, A., Ensi Castle	...	...	Cardamoms.
Byrde, F., Wellington	...	...	Arabian coffee.
DeSoyza, C. H., Colombo	...	...	Volatile oils—cinnamon oil.
Ditto ditto	...	...	Cinnamon.
Ingleton, J. K., Rajawella	...	...	Cocoa beans.
Leechman, G. & W., Colombo	...	...	Cocoanut oil.
Ditto ditto	...	...	Arrowroot.
Skeen & Co., W. L. H., Colombo	...	...	Photographs of views in Ceylon.
Williams Brothers, J. P., Henoratagoda		...	Arrowroot.

Certificate of the First Class with Silver Medal.

Christie, T. N., Makeliya	...	...	Cinchona bark, flowers, leaves, &c.
Deane, H. D., Kintyre	...	...	Arabian coffee.
DeSoyza, C. H., Colombo	...	...	Cocoanut oil.
Ditto ditto	...	...	Citronella oil.
Drieberg, J., Jaella	...	...	Cinnamon.
Fernando, N. S., Colombo	...	...	Nutmegs.
Ingleton, J. K., Dumbera	...	...	Ceylon cigars.
Leechman & Co., G. & W., Colombo		...	Citronella oil.
Lee Hedges & Co., Liberia	...	...	Liberian coffee.
Madoolkelle Estate ...	...	...	Cardamoms.
Oonoonagalla Estate	...	...	Tea.
Vollar, H. J., Pallekelle	...	...	Cocoa beans.
Von Posner, A., Colombo	...	...	Aërated waters.

Certificate of the Second Class with Bronze Medal.

Avishavella Estate	...	...	Cardamoms.
De Rajepakse, S., Colombo and Kaderane		...	Cinnamon.
Fernando, N. S., Colombo	...	...	Cloves.
Leechman, G. & W., Colombo	...	...	Coir matting.
Ditto & Co., Kadawella Estate		...	Tea.
Mackay, D., Ferndale	...	...	Cardamoms.
Oonoonagalla Estate	...	...	Ditto.
Van der Poorten, J. ...	...	...	Cocoa beans.
Von Posner, A., Colombo	...	...	Patent ice-safe.
Whittall & Co., Louisa	...	...	Collection of cinchona barks.
Ditto ditto	...	...	Arabian coffee.

Certificate of the Third Class.

Avishavella Estate	Tea.
Laurie, W. F., ...	Collection of cinchona barks.
Mackay, D., Sembawattie Estate	Tea.
Mackwood & Co., Galleboddle Estate ...	Do.
Smith, W., Mattakelly Estate	Collection of cinchona barks.

Certificate of the Fourth Class.

Bosanquet, W. D.	Collection of cinchona barks.
Leechman, G. & W., Hultsdorf Mills ...	Cocoanut-oil soap.

MALTA.

Certificate of the First Class with Silver Medal.

Boorg, M.	Maltese lace.
Turnbull, Jr., & Somerville, Valetta ...	Ditto.
Ditto ditto ...	Cigarettes and tobacco.

MAURITIUS.

Certificate of the First Class and of Gold Medal.

Bandon, A.	Vanilla pods.
De Charmor, D. Emmerez	Cloves.
De Rosnay, Joly and Langlois	Vanilla pods.
Guibert De la Fay & Co., G., Eois Cheri ...	White sugar produced by Dr. Icery's phosphoric acid process.
Langlois, J., Seychelles	Vanilla pods.

Certificate of the First Class with Silver Medal.

Botanical Garden, Pamplemousses ...	Collection of fibres.
Descubes, A.	Map of the island of Mauritius.
Magasin Général Des Huiles	Cocoanut oil.
Martial, F.	Collective exhibit of liqueurs.
Savannah, Mrs. Jamin	Brewer's crystals.

Certificate of the Second Class with Bronze Medal.

Botanical Garden, Pamplemousses ...	Woods.
deMontille, M.	Cinnamon.
Executive Committee	Arabian coffee.
Highlands Sugar Estate Co.	Extra large crystal and other sugars.
Joseph, Louis, Port Louis	Snuffs.
Lienard, E., "Chébel"	Ostrich feathers.
"Maison Blanche," Pamplemousses Sugar Estate Co.	Yellow crystal and other sugars.

Martial, F., Carepipe Road	Eau-de-Vie de Bibasse distilled from rum.
" Mount Choisy " Hemp Estate Co. ...	Aloe fibre.
Pipon, Mrs., La Chaumière	Arrowroot.
Thiery, " Mon Desert "	White sugar.
Watson, James	Sparkling lemonade.

Certificate of the Third Class.

Allendy (Mrs.) & F. le Court de Billot, " Belle Vue."	White sugars.
Boullé & Co., V., " Belle Rose," Flacq ...	Ditto.
Cassaigne & Co., Terracine, Savanne ...	Ditto.
Compagnie Sucrière de Mon Désert, Moka ...	Sugar (extra white crystals).
de Condray, Mrs. Borgault, " Union " ...	White sugars.
Des Veaux de Marigny & Co., " Queen Victoria "	Ditto.
Sauzier, M., " La Flora," Savanne ...	Ditto.
St. Julien Central Sugar Estate Co., Flacq ...	Ditto.

Certificate of the Fourth Class.

Boyer de la Giroday, " Bon Accueil " ...	White sugar.
" Union and Belair " Sugar Estate Co., Savanne.	Ditto.

Certificate of the Fifth Class.

Arnaud & Co., " Rich Fund "	White sugar.
Mazery & Co., " Deep River "	Ditto.

STRAITS SETTLEMENTS.

Certificate of the First Class and of Gold Medal.

Brandt & Co., D., Singapore	Materials for baskets.
deMornay, Henry, Malakoff Estate, Province Wellesley, Penang.	Tapioca.
Goodenough, R. B., Singapore	Vegetable dyes.
Hill, Lister & Kay, ditto	Cocoa beans.
Newton, Howard, ditto	Woods.
Paterson, Simmons & Co., ditto	Black pepper.
Ditto ditto ditto	White ditto.
Ditto ditto ditto	India-rubber and gutta-percha.
Ditto ditto ditto	Gum copal.

Certificate of the First Class with Silver Medal.

Bastiani, Joseph, High St., Singapore ...	Pineapple syrup.
Brown, Lawrence C., Manager, Gleyar Estate, Penang.	Mace.
Deli and Langkat Co., J. H. Lumberg, Proprietor, Penang.	Straits Settlements cigarettes.
Fisher, T., Singapore	Citronella oil.
Ditto ditto	Pepper, nutmeg, and other oils.
Johore Coffee Co., Ld.	Liberian coffee.

Johore Steam Saw Mills Co., Johore Baru, near Singapore.	Timbers.
Knaggs, W. Walter. Singapore Club ...	Tapioca.
Maxwell, Hon'ble W. E., Singapore ...	Specimens of Malay mats set in embroidery.
Ditto ditto ...	Collection of Malay arms.
Paterson, Simons & Co., Singapore ...	Tapioca.
Ditto ditto ...	Sago.
Perak, Government State of	Gutta.
Ditto ditto ...	Liberian coffee.
Roberts, E. L., Penang Plantations Co., Penang	Tapioca.
Selangor, Government of	Damar.
Straits Settlement, Government of ...	Silks, sarongs, handkerchiefs, &c.
Ditto ditto ...	Samples of black pepper.
Ditto ditto ...	Mace.

Certificate of the Second Class with Bronze Medal.

Ayer Etam Coir Co., Penang	Coir fibre and hand-made ropes.
Bastiani, Joseph, Singapore	Preserved pineapple.
Brandt & Co., D., ditto	Vegetable tallow.
Cerruti, F., ditto	Preserved ananas.
Favre & Co., C., ditto	Preserved fruits.
Hill, Lister & Kay, ditto	Liberian coffee.
Pulsford, Francis, Manager Trans-Rean Estate, Penang.	Rum.
Sandilands, George M., Penang	Samples of pepper.
Ditto ditto	Acheen pepper.
Selangor, Government of	Gutta grip, &c.
Straits Settlements, Government of ...	Collection of stuffed birds from Malacca.
Syers, H. C., Superintendent of Police, Selangor	Skulls of crocodiles, bosoudais, and sambur from the Malay Peninsula.

Certificate of the Third Class.

Brown & Co., Penang	White sugar and molasses.
Perak, Government State of	Arabian coffee.
Pulsford, Francis, Manager, Trans-Rean Estate, Penang.	Refined sugar.
Selangor, Government of	Block-tin ware.
Ditto ditto	Collection of tin oxide and wash-dirt.
Ditto ditto	Collection of native medicines from the state of Selangor, prepared and used by Chinese.
Straits Settlements, Government of ...	Nutmegs.

NEW SOUTH WALES.

Certificate of the First Class and of Gold Medal.

Barrett & Co., Buckingham Street, Redfern, Sydney.	Cordials and syrups.
Bensusan, S. L., Sydney	Australian mineral specimens.

Best & Co., M. S., Maitland	Tomato sauce.
Bouffier Brothers & Ansoul, F. J., Marcobrunners, Hunter River.	Australian wines.
Bray, James S., 84, Forbes Street and Woolloomooloo, Sydney.	Australian woods.
Buchanan, W. F., Killarney, Narrabri ...	Greasy merino ram's wool.
Commissioners for N. S. Wales	Indigenous timbers and other forest products.
Cox, Hon'ble Geo. H., M.L.C., Mudgee ...	Merino ram's and ewe's wool.
Crawford, A. R., Moona Plains, Walcha ...	Gums proper.
D'Arcy, F. E., Oxley	Ewes' hoggets scoured wool.
Dowling, Vincent, Luc, Rylstone ...	Greasy ewe's-wool.
Harbottle, Biddulph, & Alsop, Ettamogah, Albury.	Australian wines.
Hogg & Co., S. P., Wynyard Lane, Sydney	Colonial curry-powder.
Hume & Pegrum, Regent Street, Redfern, Sydney.	Extract of sarsaparilla.
Hunt, Robert A., Deputy Master of the Royal Mint, Sydney.	Coins and medals.
Kelman, James, Kirkton, Branxton ...	Australian wines.
Laurie, Alexander, Rawdon Vale, Port Stephen's district.	Arrowroot.
Lindemann, H. J., Cawarra, Paterson ...	Australian wines.
Munn, A. L., Merimbula	Corn-flour.
Munro, Alex., Bebeah, Singleton ...	Australian wines.
Piguenit, W. C., Hunters's Hill, near Sydney	Landscapes.
Richards, Thomas, Government Printer, Sydney.	Specimens of letter-press printing and binding.
Sydney Meat Preserving Co., Limited, Moore Street, Sydney.	Extract of meat.
Ditto ditto ditto ...	Preserved meats.
Ditto ditto ditto ...	Preserved soup.
Suttor, F. B., M.P., Bradwardine, Bathurst	Merino ewe's scoured wool.
Wade & Co., John, Dungog	Corn-flour.
White, H. C., Havilah, Mudgee ...	Pure merino Spanish blood-wool in grease.
Wyndham, John, Dalwood, Branxton, Hunter River.	Australian wines.

Certificate of the First Class with Silver Medal.

Adams, P. F., Surveyor-General, Sydney ...	Maps, specimens of lithography and engraving.
Allen, John, Executors of the late, Stony Creek, Young.	Wheat.
Barnet, James, Colonial Architect, Sydney ...	Photographs and photo-lithographs.
Barrett & Co., Buckingham Street, Redfern, Sydney.	Vinegar.
Ditto ditto ditto ...	Extract of sarsaparilla.
Black, John Marshall, Ayrdale Cheese Factory, Wolumla, Bega.	Cheese.
Blencowe, Thomas, Burrawang, near Moss Vale.	Butter.
Brecht, Carl, Rosemount, Denman ...	Australian wines.
Bucholtz, F. A., Fredericksburgh, Mudgee	Ditto ditto.
Caney & Co., Mount Victoria, Blue Mountains	Photographic views about Sydney.
Clark Brothers, Gullendaddy, Boggabri ...	Merino Lincoln Picklock wool.

Cook, W. & H., Elizabeth Street, Sydney ...	Cat-gut window-cords, and strings for musical instruments.
Cox, Allaster, E., 75, Hunter Street, Sydney ...	Ethnological collection from Australia and the surrounding islands.
Dadd, Edward, Paddington	Horse shoes.
Dalton Brothers, Summer Street, Orange ...	Flour.
Fallon, James T., Sydney and Albury ...	Australian wines.
Fleming, George T., Hauteville, Albury ...	Ditto ditto.
Forsyth & Sons, James, 17, George Street West, Sydney.	A collection of leather.
Frere, Leonce, St. Hilaire Vineyard, Albury	Champagne.
Glen Smelting Co., Tent Hill, Emmaville ...	Tin ingots and bars.
Ditto ditto ditto ...	Smelted tin.
Gorus, John T., Eschol Park, Minto ...	Australian wines.
Green, Walter C., Johannesburg, Cessnock, Hunter River.	Ditto ditto.
Gray & Neill, Sandy Ridges, Corowa ...	Paddocked merino ewe's wool.
Grice, Joseph, J.P., Wild's Meadows, Burrawang, near Moss Vale.	Butter.
Great Cobar Copper Mining Co., Pitt Street, Sydney.	"Great Cobar" copper.
Hammond & Co., Thomas W., Junee ...	Fine combing merino.
Hanscombe, William, Nambugga Cheese Factory, Bega.	Cheese.
Hardon, Arthur L., Manilla, Tamworth ...	Greasy fleece wool.
Hume & Pegrum, Regent St., Redfern, Sydney	Aërated waters.
Jack, David, Inverell	Australian wines.
Lackey Wallace & Mills, Wallendbeen ...	Washed and scoured ram's wool.
Lord, Hon'ble Francis, M. L. C., Burrawang, Moloug.	Greasy ram's and ewe's wool.
Mackenzie, John,, F.G.S., Government Examiner of Coal Fields for N. S. Wales, New Castle.	Plan and sections of upper coal measures, and two diagrams of upper middle coal, &c.
Manchee, John C., Glen Moan, Murrurundi ...	Greasy long combing wool.
Marks & Murphy, 709, George Sreet, Sydney	Lager beer.
Meaker, George, Spring Bank, Bega ...	Hams and bacon.
Monk, D. J., 295, Sussex Street, Sydney ...	Vinegar.
Mines, the Minister for, Sydney ...	Geological sketch and map.
Ditto ditto ...	Minerals.
New South Wales, Commissioners for, Sydney	Panoramic view of Sydney and photographs of public works.
Ogilvie, Hon'ble E. D., M.L.C., Yugilbar, Clarance River.	Australian wines.
Onslow, Mrs., Camden Park, Camden ...	Maize, buckwheat, and sorghum.
Otton, John, Bega	Cheese.
Paine, J., 96, Elizabeth Street, Waterloo, Sydney.	Photographic views about Sydney.
Penal Department of New South Wales ...	Rugs, mats, and matting.
Postmaster-General, Sydney	Plan of Post and Telegraph Offices, New South Wales.
Public Works, Secretary for, Sydney ...	Photographs.
Rusfeldt & Co., Emil, Royal Arcade, George Street, Sydney.	Photographic portraits.
Seery, Thomas, Yurrang, Burrawang, near Moss Vale.	Butter.
Smallwood, D. J., Caddie Road, Pitt Town, Hawkesbury River.	Colonial honey.
Ditto ditto ditto ...	Wax.

Somerville, Wm., 227, Sussex Street, Sydney	Gums proper.
South Coast and West Camden Co-operative Society, Sydney.	Buttor.
Stephen & Co., G. H., Ivanhoe, Pokolbin, Hunter River.	Australian wines.
Sutton, A. W., 284, George Street, Sydney ...	Tobacco leaf.
Tooth, R. L., Island Cheese Factory, Kamaruka, Bega.	Cheese.
Trail Bros., Llangollen, Cassilis	Merino combing, maiden ewe's wool.
Turner & Henderson, 16 and 18, Hunter Street, Sydney.	Chromo-lithographs of wild flowers.
Tuttle & Co., George and Market Streets, Sydney.	Photographic portraits.
Vicars & Co., J., Sussex Street, Sydney ...	Tweeds, plaids, and shawls.
Williams, Charles, 264, Crown Street, Sydney	Marbling, graining, &c.
Wilkinson, John A., Coolalta, Branxton, Hunter River.	Australian wines.
Wood, Granville A., 314, George Street, Sydney	Photographic portraits.
White, J. F. & H., Beltrees, Scone ...	Greasy merino wool.
White, F. R., Harben Vale, Blandford ...	Pure-bred merino wool.

Certificate of the Second Class with Bronze Medal.

Allen, John, Executors of the late, Stony Creek, Young.	Ram's combing wool.
Australian Glassware Co., Botany, near Sydney	Aërated-water bottles.
Barrett & Co., Buckingham Street, Redfern, Sydney.	Aërated waters.
Ditto ditto ditto ...	Patent stoppered aërated-water bottles.
Beattie, Hugh, Brooklyn, North Wagga ...	Australian wines.
Begg & Son, Glenmore Tannery, Rushcutter's Bay, Sydney.	Leather.
Bennett, W. F., (late Th. Boyd), 252, George Street, Sydney.	Portraits (photographs).
Bettington, James B., Brindley Park, Merriwa.	Merino wool.
Boake, B. C., Sydney Arcade, Sydney ...	Portraits (photographs).
Biddell Bros, 505-507, George Street, Sydney...	Confectionery.
Bresnahan, D., Wild's Meadows, Burrawang, near Moss Vale,	Butter.
Bridle, Wm., Rosevale, Tumut	Tobacco leaf.
Campbell, D. H., Cunningham Plains, Cunningham.	Wool, merino ewe, greasy.
Candelo Butter Co., 37, Sussex Street, Sydney	Butter.
Cannon, Manes, Leichardt Street, Waverley ...	Ditto.
Caspers, Rudolph, Auburn Street, Goulburn ...	Photographic views taken in New South Wales.
Collingwood Wool-scouring and Fellmongering Works, Liverpool.	Scoured slipe wool.
Cohen & Levy, Tamworth	Flour, AX mark.
Ditto ditto	Corn meal.
Cook, W. & H., 225, Elizabeth Street, Sydney	Paragon fire-kindler.
Cooma Pastoral, Agricultural, and Ploughing Association, Cooma.	Natural mineral water from a spring in Cooma.
Cowdery, George, & Edwin R. Thomas, Sydney.	Hydra-headed rail.

Craven, T. W., 164, Sussex Street, Sydney ...	Butter.
Ditto ditto ditto ...	Peas, oats, Cape barley, and maize.
Douglas, H. & C., North Yanco, Naran Dera.	Australian merino wool.
Doust, D., Camden	Black sorghum, planter's friend, and pearl millet.
E. W. G. Co. (A Geddes), 2, Young Street, Circular Quay, Sydney.	Leather.
Fetherstonhaugh, C., Goorianana Baradine, Liverpool Plains.	Mudgee and Collaroy hogget ram's wool.
Francis, George, Douglas Vale, Port Macquarie.	Australian wines.
Grant & Childe, Chah Sing, Moulamein ...	Four-skirted fleeces, greasy wool.
Guerin, Patrick, 296, Elizabeth Street, Sydney	A collective exhibit of harness, &c.
Hardie, George, Pitt Street, Sydney ...	Brass castings and steam fittings.
Hay & Sons, William, Boomanoomanoo Mulwala, Murray River district.	Paddocked merino wool.
Hayter, James, Camden	Oaten hay and lucerne hay.
Herfort, Gustavus, Cooma Sreet, Yaas ...	Photographic views.
Hodgson, H. W., Elizabeth Street, Sydney ...	Self-acting venetian-blinds.
Hudson Bros., Ld., Sydney and Granville ...	Railway materials, axles, springs, &c.
Hume & Pegrum, Regent Street, Redfern, Sydney.	Cordials and syrups.
Ditto ditto ditto ...	Liqueurs.
Isbester, Thomas, Gulgong, near Mudgee ...	Wheat, barley, oats, and rye.
Jauncey, John, Angledale, Bega	Cheese.
Jones, Evan, Royal Arcade and Hunter Street, Sydney.	Platedware and mounted emu eggs.
Ditto ditto ditto ...	Coining-press.
Lavers, J. V. 117, Redfern Street, Sydney ...	Laver's chlorozone.
MacDonald, John M. L., Wallabadah ...	Merino ewes' skirted-fleece wool.
Mather, Thos, Roslyn, Inverell	Australian wines.
M'Caughey, Samuel, Coonong, Urana ...	Greasy merino combing wool.
Mines, Minister for, Sydney	Maps of mineral areas.
Mitchell, James, Table-top Station, Yambla, near Albury.	Merino wool.
Moore, John, Sr., Burrawang, near Moss Vale.	Butter.
Moffat, Josiah, Uralla	Wheat.
Mulholland, Geo. Jas., Oura, Wagga-Wagga	General and stud flock wool.
Murray, George, Sydney	Paper and wool felt, paper bags, brown and printing-paper.
Munsie, Samuel, Kelvin Grove Farm, near Uralla, New England.	Wheat and maize.
New South Wales, Commissioners for ...	A collection of stuffed animals, &c.
Richards, Thomas, Government Printer, Sydney.	Photographic views.
Robertson, D. F., Brungle, near Tumut ...	Wheat (white lammas).
Sloane, Alex. R., Mulwala, Murray River district.	Paddocked merino ram's and ewe's wool.
South Coast and West Camden Co-operative Company, Sussex Street, Sydney.	Cheese.
Ditto ditto ditto ...	Hams and bacon.
Taylor, Sarah M., Burwood, near Sydney ...	Jams and jellies.

Turner & Henderson, 16 and 18, Hunter Street, Sydney.	Landscape photographs in album.
Webb & Co., Bathurst	Flour.
Whitty, H. T., Taramia, Corowa ...	Greasy merino combing wool.
Wren, Henry, Kamaruka, Bega	Cheese.

Certificate of the Third Class.

Atkin & Horder, John Street, Singleton ...	Flour.
Batson & Atwater, 8, Bond Street, Sydney ...	Specimens of letter-press printing.
Bailey & Kerr, Sydney	Card-printing machine.
Bowman, Jane A., Jerry's Plains ...	Raw silk from Jerry's Plains.
Brandon, Thomas, Burrawang, near Moss Vale.	Butter.
Bradford, D. & R., Elizabeth Street, Sydney ...	Cast-iron gate-post and railings.
Bridle, William, Rosevale, Tumut ...	Maize.
Cannon, Manes, Leichardt Street, Waverley, Sydney.	Double jar for safe carriage of perishable food.
Cohen & Levy, Tamworth	Wheat.
Conlon, J., Picton	Black sorghum.
Conolly, M., Argyle Flour Mills, Goulburn ...	Flour.
Cox, Herbert A., Mudgee	White and yellow maize.
Crago, Francis, Bathurst	Flour.
Crawford, A. R., Moona Plains, Walcha ...	White haricot beans.
Downes, F. A., Camden	Maize, buckwheat, and planter's friend.
Dunk, T., Camden	White wheat and creeping wheat.
Foley, James, Lower Peak, Mudgee ...	Wheat.
Graham, James, Burrawang, near Moss Vale ...	Butter.
Halligan, Mrs. Gerald, Engowra, Hunters' Hill, near Sydney.	Oil painting "Forest Beauties of New South Wales."
Hellyer, Robert, 97, Bathurst Street, Sydney	Roller stamp.
Ditto ditto ditto	Platedware of colonial make.
Herenschmidt, H., Hereford Street, Glebe Point.	A collection of metallurgical products of antimony.
James, H., Picton	Flour.
Jewell, Edward, Botany, near Sydney ...	Sea-fishing lines.
Jindera Flour Mill, Jindera, near Albury ...	Flour.
Mackey, George E., Albury	Oats.
McGovern, J., Goulburn	Household soap.
McLean, James, Corowa	Wheat.
Moore, J. E., Camden	Maize of sorts, and black sorghum.
Murray, Andrew, Bannockburn, Inverell ...	Australian wines.
Palmer, C. C., Moama	Flour.
Paton, John, 24, Pitt Street, Redfern, Sydney...	Permanent-way for tramways.
Preston & Co., Abercrombie Street, Sydney ...	Wheels, felloes, spokes, &c.
Railway Department, New South Wales ...	Icke's phosphor-bronze.
Ritchie, R. A., George & Macquarie Street, Parramatta.	A collection of ploughs and harrows.
Ritchie, William, Grandville	Ditto ditto.
Scott, W. F., Orange	Wheat.
Smith, James Montague, Hinton, Hunters River.	Australian wines.
Smith, A. L., Sussex Street, Sydney ...	Eucalyptus, carbolic, and fancy soap.

Southwood, G. J., Mudgee	Wheat.
Summerhays, G., Monteagle, Young ...	Wheat (white lammas).
Tremain, W., Bathurst	Flour.
Urquhart, John, Macdonald's Creek, Mudgee.	Wheat (white lammas).
Walsh, Samuel, Long Swamp	Ditto ditto.
Warboise, T., Spring Hill, near Orange ...	Oats.
Webb & Co., Bathurst	Wheat.
Wright, John, Sussex Street, Sydney ...	A collection of ploughs and harrows.
Zokner, S., York Street, Sydney	Galvanized ironware.

Certificate of the Fourth Class.

Dyason Brothers, Alexandria, Sydney ...	Assorted jams.
E. W. G. & Co. (A. Geddes), 2, Young Street, Circular Quay.	Potash scouring soap.
Hardie, George, Pitt Street, Sydney ...	A bell weighing 4 cwt.
Keollner, Kilian, Tarraganda, Bega ...	Maize.
Knibbs & Sons, J. H., 9, Municipal Stores, Market Wharf, Sydney.	Leather belting.
Regan, D., Tamworth	Household soaps.
Selfe, Gilbert, Oxford Street, Sydney ...	Chemicals.
O'Neil, Charles, M.I.C.E., 225, Elizabeth Street, Sydney.	Building stone.

Certificate of the Fifth Class.

Hogben, E., Abercrombie Street, Redfern, Sydney.	Balsam of aniseed.
Hogg & Co., S. P., Wynyard Lane, Sydney ...	Fruit salt.
Lavers, J. V., 117, Redfern Street, Sydney ...	Cholera mixture and tartar, fruit salt.

SOUTH AUSTRALIA.

Certificate of the First Class and of Gold Medal.

Angas, J. H., Collingrove	Lincoln wool.
Braddock & Sons, Adelaide	Benzole and gold-lacquer.
Crozier, William, Moorna Station, River Murray	Ram and merino fleece wool.
Davenport, Samuel, Beaumont	Olive oil.
Ditto ditto	Australian wines.
Fotheringham, D. & R. J., Gawler ...	Brinjall sauce.
Hackett, E. & W., Adelaide	White Tuscan wheat, skinless barley, and white oats.
Hanton & Co, H. B., Fullarton	Jams and jellies.
Hawker, Hon'ble G. C., Bungaree	Ram's-wool and paddocked merino wool.
Hardy, Thomas, Bankside	Almonds.
Ditto ditto	Australian wines.
Holtze, Maurice, Fannie Bay, Northern Territory.	Tapioca.
Ditto ditto	Pea-nuts.

Mais, H. C., C.E., Engineer-in-Chief, Adelaide	Working drawings of South Australian Railways.
McMinn, G. R., Acting Government Resident, Northern Territory.	A collection of indigenous woods.
Milling and Mercantile Company, Adelaide ...	Flour AX, AI, mark.
Phillipson Bros., Adelaide	Ale and stout.
Scott, H. J., Executive Commissioner for South Australia.	Collection of South Australian wines in the South Australian Court.
Smith & Son, S., Yalumba, Angaston ...	Australian wines.
South Australia, the Government of ...	Ghee.

Certificate of the First Class with Silver Medal.

Anderson & Robertson, Adelaide	Olive oil.
Angas, J. H., Collingrove	Purple straw, white Tuscan and white lammas, wheat, and skinless oats.
Auldana Vineyard Proprietors	Australian wines.
Barnard, G. L., Walkerville	Olive oil.
Barossa Flax Milling Company, Lyndoch Valley	Flax.
DeLissaville Sugar Company, Northern Territory.	Raw sugar.
Fruit and Vegetable Preserving Co., the Australian, Kent Town.	Dried fruits.
Goyder, G. W., Surveyor-General, Adelaide ...	Maps of South Australia.
Hardy, Thomas, Bankside	Dried raisins.
Hague, Edward, Angaston	Dried currants.
Hartley, J. A., Education Department, Adelaide	School maps of South Australia.
Holtze, Maurice, Fannie Bay, Northern Territory.	Arrowroot.
Institute, South Australian, Adelaide ...	Views and groups (photographs).
Margetts, C., Parkside	Tomato sauce.
Murray & Son, Alex., Craiglee, Coromandel Valley.	Fancy biscuits.
Ostrich Farming Co., Malcolm's	Ostrich feathers.
Penfold & Co., The Grange, Magill ...	Australian wines.
Salter & Son, E., Saltram, Angaston ...	Ditto.
Sanders & Co., James, Canowie	Canowie merino wool.
Seppelt, B., Seppeltsfield	Australian wines.
Simpson & Son, A., Adelaide	Fire and burglar-proof safes.
Ditto ditto ditto	Japanned toiletware and stamped tinware.
Spiller, E., Government Printer, Adelaide ...	Chromo-lithographs of the forest flora of South Australia.
Sweet, S. W., Adelaide	Photographs of South Australian scenery.
Walleroo Smelting Company, Ld.	Copper ingots.
Young, C. B., Walkerville	Australian wines.

Certificate of the Second Class with Bronze Medal.

Anderson & Robertson, Adelaide	Malt vinegar.
Aërated Bread Company, Adelaide ...	Fancy biscuits.
Barton & Co., Hackney	Pickles.
Ditto ditto	Tomato sauce.
Ditto ditto	Curry-powder.
Braddock & Sons, Adelaide	Printing-inks.
Conrad, L., Adelaide	Preserved meats.

Elder, Sir Thomas, Birksgate	Australian wines.
Fruit and Vegetable Preserving Co., Australian, Kent Town.	Jams and jellies.
Ditto ditto ditto ...	Preserved dried potatoes.
Foelsche, Paul, Northern Territory ...	Photographic views of South Australia.
Gilbert, William, Pewsey Vale	Australian wines.
Gray, Mrs. George, North Adelaide ...	Models of fruits in wax.
Haines, Wm., M.P., Teatree Gully, Adelaide ...	Kaoline.
Hanton & Co., H. B., Fullarton	Tomato sauce.
Holtze, Maurice, Fannie Bay, Northern Territory.	Sugarcane.
Ditto ditto ditto ...	Earth-nut oil.
Ditto ditto ditto ...	Raw cotton.
Jacobs, W., Moorooroo	Australian wines.
Lobethal Woollen Factory Co., Adelaide ...	Wool prepared for manufacture.
Marble and Building Co., Kapunda ...	Marble.
Minchin, R. E., Adelaide	A collection of emu eggs.
Murray & Son, Alex. Craiglee, Coromandel Valley.	Jams and jellies.
Pflaum & Co., F., Blumberg	Mimosa or wattle bark in various stages.
Robertson, A. S., Adelaide	Models of railway and tram carriages.
Spiller, E., Government Printer, Adelaide ...	A collection of lithographic and letter-press printing and binding.
South Australian Salt Plaster and Manure Company, York Town.	Gypsum manure.
Thyer, Joseph, Belalie	Purple wheat.

Certificates of the Third Class.

Ah Din Chin, Margaret River, Northern Territory.	Sugar-cane.
Angaston Preserving Company, Angaston ...	Preserved fruits in syrup.
Allen & Co., P. R., Daly River, Northern Territory.	Sugar-cane.
Ashby, Thomas, Clare	Wheat.
Bell, Allan, Mount Barker	White, Tuscan, and purple straw wheat.
Bickford & Sons, A. M., Adelaide	Tonic flowers.
Burford & Sons, W. H., Adelaide	Soap.
Conigrave & Collison, Adelaide	Pen and pencil drawing.
Crozier, Hon'ble John, Oaklands	Australian wines.
DeLissaville Sugar Company, Northern Territory.	Sugar-cane.
Dobbie, A. W., Adelaide	Seed-sower.
Holtze, Maurice, Fannie Bay, Northern Territory.	Pine fibre.
Hughes, E. C. S. M., North Adelaide ...	"Trepang" (Bêche de Mér).
Knott & Meyder, Howley, Northern Territory,	Raw cotton.
Magarey & Co., Hindmarsh	Flour.
Mellor Bros., Adelaide, Kapunda and Quorn ...	Stripping-machine and stump-jumping plough.
Pitcher, J. G., Adelaide	Pearl shells of commerce.
Ramsay & Co., J. G., Mount Barker ...	Stripping-machine.

Stott & Son, J. W., Alma	Stump-jumping plough.
South Australian Salt Plaster and Manure Company, York Town.	Plaster of Paris.
South Australian Committee, Adelaide ...	Models of fruits in wax.

Certificate of the Fourth Class.

Conigrave & Collison, Adelaide	Hullett's combination truck.
Holtze, Maurice, Fannie Bay, Northern Territory.	*Dhol*, unhusked rice, and maize.

Certificate of the Fifth Class.

Cross, Charles, Gawler...	Indigestion-drops.

TASMANIA.

Certificate of the First Class and of Gold Medal.

Fleming, John Gidley, Liverpool Street, Hobart	Potted butter in glass jars.
Glover, Charles A., Huon River	Grass tree varnish.
Johnston, Robert M., Hobart	Samples of wood.
Kœppen, Mrs. Louise, Hobart	Embroidered white Cashmere.
Peak, H. and T., Hobart	Jams and jellies.
Perkins and Nephew, Hobart	Bridal and other apparel for ladies and children.
Ditto ditto	Bridal dress and children's dresses.
Shaw, Bernard, Hobart	A collection of minerals.
Scott, James, M.H.A., Launceston ...	Petrified wood.
Viney, Robert, Evandale	Lamb's wool fleeces.
Weaver & Co., Hobart	Cordials and syrups.
Ditto ditto	Essence of cloves.

Certificate of the First Class with Silver Medal.

Ah Catt & Co., James, St. John Street, Launceston.	Tobacco leaf.
Anglo-Australian Guano Co., Hobart ...	Guano.
Burt, Mrs. R. R., Brisbane Street, Hobart ...	Apple jelly.
Burgess & Co., W. N., Liverpool Street, Hobart	Jams of Tasmanian fruits.
Burrowes & Co., Brisbane Street, Launceston	Photographs in opalesque style.
Belbin, William, M.H.A., Mayor of Hobart	Samples of wood.
Bridges Brothers, Elizabeth Street, Hobart ...	Materials for baskets, &c.
Brain, Edward, Oatlands	Halters.
Cadman, R., St. Mary's, Fingal	Cheese.
Just, Major T. C., Hobart	Samples of wood.
Ditto ditto	A collection of minerals.
Kœppen, Mrs. Louise, Murray Street, Hobart	Fancy work in hair.
Ditto ditto	Name in satin stitch on handkerchief.
Ditto ditto	Ladies' and children's underclothing.
Ditto ditto	Artificial fruits in wax, &c.
Kidd, Miss Jessie, Launceston	Basket in arascene work.
Kelly & Gordon, Hobart	Extract of sarsaparilla.
Miller, Andrew Paton, Liverpool Street, Hobart	Perfumery.

Murray, William, Glenorchy ...	Vinegar.
Osborne, Bishop, Murray Street, Hobart ...	Photographs in opalesque style.
Peart, George, Launceston	Hams and bacon.
Paton, George, ditto	Group of figures in plaster.
Russell, R. D., Liverpool Street, Hobart ...	Jams in glass and tin.
Russ & Barnett, Hobart	Portraits (photographs).
Santifaller, J. B., Hobart	Shells and shell necklaces.
Ditto ditto	Toys.
Ditto ditto	Wood-carvings.
Tasmania, the Government of, Hobart ...	Views in Tasmania.
Ditto ditto	Tin ingot and bars.

Certificate of the Second Class with Bronze Medal.

Andrews, Mrs. Mary Ann, Hobart ...	Whatnot painted with Tasmanian flowers.
Abbott, Francis A., Superintendent, Public Gardens, Hobart.	A collection of fern fronds and seeds.
Boyd and Co., Launceston	A collective exhibit of leather.
Bridges Brothers, Hobart	Ditto ditto basket-work.
Ballard, James, Launceston	A collection of useful baskets made of Tasmanian willows.
Campbell, John, Sandhill, Launceston ...	Porcelain and earthenware.
Davies, Joseph, Beaconsfield	Plans of a mine.
Donolly, W. J., Hobart	A collection of wattle bark in various stages.
Eady, C. G., ditto	Dandelion ale.
Elliott, Mrs., ditto	Etchings on wood.
Grubb Brothers, ditto	A collection of wattle bark in various stages.
Gardener, Robert ,, ...	Yolu bird oil.
Glover, Charles A., Huon River	Samples of wood.
Johnston, Mrs. J., Hobart	Shade of wool flowers.
Joyce, John, Brisbane Street, Launceston ...	Hams and bacon.
Just, Major T. C., Hobart	A small grindstone.
Jacobs, Samuel ,, ...	Shells and shell necklaces.
Kidd, Miss Jessie, Launceston	Ladies' night-dress.
Kelly & Gordon, Hobart	Essence of cloves.
Lloyd, William Joseph, Hobart	Chest of drawers with mirror and jewel-cases.
Mackenzie, Robert, Launceston	Cordials and syrups.
Ditto ditto	Aërated waters.
Meredith, Mrs. Louisa Ann, Orford ...	A collection of algæ gathered at Orford, east coast of Tasmania.
Ditto ditto ditto ...	Paintings, illustrations, &c.
Martin, J. D., Hobart	Shells and shell necklaces.
Newitt, Miss Emily H., Hobart	Banner screen and cushion.
Ritchie, David, Launceston	Oatmeal.
Scott, Robert, River Forth	Ditto.
Sharpe, Johnston, Hobart	Hams, and bacon, smoked and unsmoked.
Survey Department, Hobart	Maps of Tasmania.
Tasmania Public Schools	Specimens of work by pupils in schools.
Tasmania, the Government of	A collection of the fishes of Tasmania.
Tasmanian Preserving and Trading Company, Glenorchy.	Preserved rabbit.

Vautin, H., Hobart	A collective exhibit of leather.
Walch & Sons, James, Hobart	An exhibit of commercial binding.
Weaver & Co., Hobart	Extract of sarsaparilla.
Walden, James, Hobart	Yolu bird oil.
Ditto ditto	Ditto tallow.

Certificate of the Third Class.

Andrews, Mrs. Mary Ann, Liverpool Street, Hobart.	Models of fruits in wax.
Conolly, D., Launceston	Brandy.
Dossitor, D. R., Hobart	Flour.
Ditto ditto	Samples of wheat.
Don River Trading Company	Hams and bacons.
Elliott, Mrs., Macquarrie Street, Hobart ...	Paintings of Tasmanian flowers.
Evans, Miss Maria C., Hobart	Ditto ditto ditto, berries, and insects.
Hickman, R., Hobart	Jams.
Houghton, J. H., Perth	Flour.
Just, Major T. C., Hobart	Building stone.
Johnston, James, Elizabeth Street, Hobart ...	A collection of harness, &c.
Kelly & Gordon, Hobart	Cordials and syrups.
Ditto ditto	Aërated waters.
Kœppen, Mrs. Louise, Murray Street, Hobart	Painted flowers on table top.
Lovell, Miss Clara Helen, 96, Argyle Street, Hobart.	Oil paintings of Tasmanian flowers and birds.
Murray, William, Glenorchy, Tasmania ...	Soap and candles.
Mechanics' Institute, Launceston ...	A cabinet for mineralogical specimens.
Newitt, Miss M., Hobart	Knitted baby's suit.
Newitt, Miss Mary, Launceston	Pictures worked in crewels.
Newitt, Miss Eliza, Charles Street, Launceston	A table-cover.
Ritchie, David, St. John Street, Launceston ...	Split peas and pearl barley.
Stanfield, Miss Myra, Glenorchy	Macrame lace work.
Turner, Henry, Hobart	Wheat.
Woods, W., Junior	An inlaid writing desk made of Tasmanian wood.

Certificate of the Fourth Class.

Boyd & Co., Elizabeth Street, Launceston ...	Boots, shoes, and slippers.
Hallam, Miss Emily Jane, O'Brien's Bridge ...	Spatteric table and what-not, Tasmanian ferns on Tasmanian wood.
Murray, William, Glenorchy	Cider.
Mather & Sons, J. B., Liverpool Street, Launceston.	Hats and caps.
Newitt, Mrs., Sorell	Patchwork quilt.
Panton, William, Brisbane Street, Launceston	Cider.
Smith, Miss, Catherine Jane, Hobart ...	Pictures of Tasmanian flowers.
Stevens, Miss Ada, Macquarrie Street, Hobart	Screen in arascene work by hand.

Certificate of the Fifth Class.

Chester, Miss Florence M., Launceston ...	Macrame and crewel work.
Dalby & Co., D., Launceston	Liver and blood mixture.

Hallam, Miss Emily Jane, O'Brien's Bridge ...	An embroidered sachet.
Keppen, Mrs. Louise, Murray Street, Hobart.	Carved picture in cork surrounded by bead embroidery.
Newitt, Miss, Agnes, Sorell	Knitting in wool by hand.
Stanfield, Miss Ada	Ladies' hand-worked lace.

VICTORIA.

Certificate of the First Class and of Gold Medal.

Aitken, Thomas, Melbourne	Spirits of wine in cask.
Alcock & Co., Melbourne	Billiard table and accessories.
Agriculture, Department of, Melbourne ...	Collection of wheat, oats, barley, rye, maize, peas, millet, &c.
Australian Freehold Land and Produce Company, Ld., Melbourne.	Australian wines.
Bosisto, J., M.P., Richmond	Eucalyptus preparations.
Ditto ditto	Eucalyptus liqueurs.
Braché & Co., Collin's Street, Melbourne ...	Australian wines.
Bruhn, A., Sandhurst	Ditto ditto.
Buchanan, Lt. Col., Lismore	Ewe's and lamb's merino wool.
Cain, Henry, Melbourne	Vinegar.
Caldwell & Co., Collin's Street, Melbourne ...	Australian wines.
Caughey, A. & R., Yarra Bank, Melbourne ...	*Ditto ditto.*
Clarke, Sir W. J., Bolinda Vale, Lancefield ...	Fleeces of Leicester sheep wool.
Davies, John, Moonee Ponds, Melbourne ...	Australian wines.
DeCastella & Rowan, Melbourne ...	Ditto ditto.
Education, Department of, Melbourne ...	Models of State Schools, maps, &c.
Felton, Grimwade & Co., Melbourne ...	Collection of essences.
Ditto ditto	Essence of rennet.
Ditto ditto	Cruse's fluid magnesia.
Ferres, John, Melbourne	Collective exhibit of printing and binding.
Grosse, F., Collin's Street, Melbourne ...	Australian wines.
Heidelberg Cheese and Condensed Milk Co., Ld., Melbourne.	Condensed milk.
Johnson & Co., Melbourne	Rock-borer.
Lawrence, Mrs. J. E., Victoria	Picture of Queen Victoria in needlework.
Lindt, J. W., Collin's Street, Melbourne ...	Portraits and views (photographs).
Mueller, Baron von, K.C.M.G., Melbourne ...	A collection of timbers.
Ditto ditto ditto ...	Collection of Australian flowers not yet introduced into horticulture, preserved in an album.
Michaelis Hallenstein & Co., Melbourne ...	A collection of hides and leather for soles.
Morris & Sons, G. F., Brown's Plains ...	Australian wines.
Rowlands, E., Melbourne and Ballarat ...	Cordials and syrups.
Ditto ditto	Aërated waters.
Russell, Hon'ble Philip, Carngham ...	Merino fleeces and lambs' wool.
Smith, Miss Annie, Melbourne	Three-fold satin screen, embroidered and ornamented with silk designs.
Smith, G. S., Wahgunyah	Australian wines.

Superintendent, Industrial and Technological Museum, Melbourne.	Specimens of woods.
Swallow and Ariell, Melbourne	Fancy biscuits.
Ditto ditto	A collective exhibit of cakes.
Victorian Champagne Co., Ld., Melbourne ...	Champagne.

Certificate of the First Class with Silver Medal.

Agriculture, Department of, Melbourne ...	Seeds.
Ditto ditto ditto ...	Samples of wool.
Aitken, Thomas, Melbourne	Ale and porter.
Brown, Montague, South Yarra	Tomato sauce.
Brown, Wm. Piper, Malvern	Tomato sauce.
Caire, N. J., Melbourne	Views of Botanic Garden, Melbourne.
Coker, Mrs. Thomas, Ascot Vale, Melbourne ...	Pickled grapes.
Cunnack, George, Castlemaine	A collection of leather.
Curtis, John, Melbourne	Portmanteaux and trunks.
Curtis, James, Ballarat...	Specimens of letter-press printing.
Currie, John, Melbourne	Cheese.
Danelli, S., Brunswick	Maccaroni, &c.
Director, Botanical Gardens, Melbourne ...	Ferns.
Douglas & Sons, Melbourne	Gaseliers and gas brackets.
Eadie, John, Sunbury	Australian wines.
Ellery, R. L. J., Melbourne	Photographs of the moon.
Felton, Grimwade & Co., Melbourne ...	Carbolic and Fuller's-earth soap.
Findlay & Son, Richmond, Melbourne ...	Ales.
Flemington Meat Preserving Company, Melbourne.	Preserved meats.
Ditto ditto ditto ...	Preserved soups.
Fuller, Miss Elizabeth, Inverleigh ...	Flowers formed of native birds' feathers.
Fulton & Co., E. Graham, Collin's Street, Melbourne.	Australian wines.
Hayter, H. H., C.M.G., Melbourne ...	Victorian statistical books.
Harris, Alfred A., Clunes	Tomato sauce.
Harwood, Wm., Castlemaine	Bells.
Hop Bitters Manufacturing Company, Melbourne.	Hop bitters.
Hutton, J. G., Melbourne	Hams and bacon.
Hughes, William, Rutherglen	Australian wines.
Johnston, James Stewart, Sunbury ...	Ditto ditto.
Kahland, Joachim, Sandhurst	Ditto ditto.
Kurrle, Robert, Sunbury	Ditto ditto.
Lands, Department of, Melbourne ...	Maps of Australia, Victoria, Melbourne.
Lewis, Loan, Walhalla	Aërated waters.
Lewis & Whitty, Melbourne	Curry-powder.
Ditto ditto	Starch, blue, blacking, and polish.
Melbourne Milk Supply Company, Limited ...	Butter.
Mines & Water Supply, Department of, Melbourne.	Maps of Victoria, Australia, and geological maps.
McEwan & Co., James., Melbourne ...	Garden fountain.
McGeorge, E. T., St. James' Park, Hawthorn...	Drill test or borehole indicator.
McIntyre, Peter, Mameluke, Beaufort ...	Merino fleeces and plain washed wool.
McLean & Sons, E., Bridgewater ...	Liqueurs.

Mueller, Dr. Augustus, Yackandandah ...	Australian wines.
Pansacker, Evans & Co., Melbourne ...	Portmanteaux and trunks.
Pierce & Son, W. C., Sandhurst	European pickles.
Ditto ditto	Sauces.
Pohl, Carl, Straithfieldsaye	Australian wines.
Red Cross Preserving Company, Melbourne ...	European pickles.
Rocke, Tompsitt & Co., Melbourne ...	Silk elastic goods.
Rowan, Mrs. Ellis, Melbourne	Hand-paintings of orchids.
Sands & McDougall, Melbourne	Chromo-lithographs.
Swallow & Ariell, Melbourne	Flour.
Syme & Co., David, Melbourne	Wood-engravings and lithographs.
Troedel & Co., Melbourne	Specimens of lithographic and general printing.
Trouette & Blampied, Great Western ...	Vinegar.
Victoria, Government of	Natural history collection.
Victorian Woollen and Cloth Manufacturing Company, Melbourne.	Tweeds, cloth, and flannel.
Watson & Patterson, Melbourne	Hams and bacon.
Western Meat Preserving Company, Limited, Colac.	Preserved soups.
Whittall & Co., G. M., Melbourne ...	Wool mats, plain and fancy.
Wood & Co., Melbourne	Butter.
Zorn, Ed., Oakleigh, Victoria	Tomato sauce.

Certificate of the Second Class with Bronze Medal.

Altson & Co., D., Melbourne	A collection of harness.
Bendigo Pottery Company, Limited, Sandhurst	Majolica stoneware and whiteware.
Best, Joseph, Great Western	Australian wines.
Brensing, G., Nagambie	Ditto ditto.
Bullivant, Wm. Hose, Longerenong ...	Pure merino unwashed wool.
Continuous Automatic Railway Brake Company, Limited, Melbourne.	Continuous brake for use on railways.
Corrie, William, Melbourne	Curled hair and flocks.
City Corporation, Melbourne	Views of Melbourne.
Clifton Mineral Spring Company, Limited, Drysdale.	Mineral waters.
D'Alton, Miss Henrietta, Stawell ...	Paintings of flowers.
Danks, John, Melbourne	Engine brasses and other fittings.
Dillon, Burrowes & Co., Melbourne ...	Confectionery.
Edwards & Kaul, Melbourne	Emu eggs mounted in silver.
Felton, Grimwade & Co., Melbourne ...	A collection of drugs and medicines.
Fox, A. W., Emma Creek, Sandhurst ...	Australian wines.
Gemmell, John, Beechworth	Ditto ditto.
Gianetti, Baptista, Bealiba	Ditto ditto.
Graham Bros., Rutherglen	Ditto ditto.
Greene & Co., S., Fitzroy, Melbourne ...	Cordials and syrups.
Harris, Alfred A., Clunes	Chutnies.
Jack, Robert, Rutherglen	Australian wines.
Jopling, J. R., Ballarat	Neatsfoot oil.
Kitz & Son, Lewis, Melbourne	Australian wines.
Lewis, Loan, Walhalla	Light ale.

Lewis, William, Hoveleigh	A collection of fleeces, lamb's wool.
Logan, Duncan, Rutherglen	Australian wines.
Mather, J., Melbourne	Two oil-paintings—landscapes.
Melbourne Milk Supply Company, Limited ...	Condensed milk.
Ditto ditto ditto ...	Cheese.
McLean & Sons, E., Bridgewater ...	Cordials and syrups.
Moonen, Mons. Leo, Melbourne ...	Organ instruction book.
Newlands, W. H., Castlemaine ...	Specimens of printing, &c.
Nolan, Luke, Melbourne	Terra-cotta jars, stoneware, &c.
Oldmeadow & Son, T. A., Dunolly ...	A collection of preserved fruit and tomatos.
Penal establishment, Pentridge	Blankets and clothing.
Purdue, T. W., Ballarat	A collection of harness.
Pincus, Max, Castlemaine	Flofozone water.
Reau, Camille, Wahgunyah	Australian wines.
Red Cross Preserving Company, Melbourne ...	Sauces.
Reformatory, Ballarat	Clothing worn by boys in the reformatory.
Rowlands, E., Melbourne and Ballarat ...	A collection of liqueurs.
Smith, G. S., Wahgunyah	Brandy.
Stokes & Martin, Melbourne	Coins and medals.
Ditto ditto ditto	Emu eggs mounted in silver.
Sullivan, J., Melbourne	Disinfectant powder.
Trade and Customs, Department of, Melbourne.	Photographs of docks, &c.
Trimble, Robert, Rutherglen	Australian wines.
Troedel & Co., Melbourne	Engravings and lithographs.
Trouette & Blampied, Great Western ...	Australian wines.
Upton & Son, W., Geelong	Soaps, ordinary and with eucalyptus oil.
Wimmera District Agricultural and Pastoral Society, Dimboola.	Wheat.
Zevenboom & Sons, John, Melbourne ...	Brushware of every description.

Certificate of the Third Class.

Aitken, Thomas, Melbourne	Rum in cask.
Aborigines, Board for the Protection of, Melbourne.	Basket-work.
Ditto ditto ditto ...	Complete collection of weapons used by the Victorian natives.
Ditto ditto for J. Henty & Co.	Hops.
Australasian Deodorizing, Disinfecting, and Fertilising Company Limited, Melbourne.	Hunter's patent vegetable disinfectant.
Australian Lithofracteur Company, Melbourne	Models of lithofracteurs.
Best, Henry, Great Western	Australian wines.
Brewing and Malting Company, Limited, Melbourne.	Ale and porter.
Ditto ditto ditto ...	Hops.
Burston & Co, S., Melbourne	Barley for malting.
Buchanan, C., Ondit	Australian wines.
Calhoun, Andrew, Portarlington	Golden wattle seed.
Carwardine, W. H., Sandhurst	Domestic soap.
Cockerell, Robert, Melbourne	Patent cross cultivator and pulveriser.
City Council, Ballarat	Views in Ballarat.

Curtain, John, Melbourne	Brandy.
Ditto ditto ditto	Rum.
Craike, Thomas, Sandhurst, Axecreek ...	Australian wines.
Danks, John, Melbourne	A collection of lubricators, whistles, cocks, valves, and pipes.
Education Department, Melbourne ...	Water-colour drawings.
Fitzgerald & Newman, Castlemaine ...	Australian wines.
Flood, F., Melbourne	Improved water-lift.
Kerr, Thomas, Ballarat	A collection of harness, &c.
Kitz & Son, L., Melbourne	Cider.
Knipe, J. H., Melbourne	Views of Melbourne Exhibition.
McLean Broso & Rigg, Melbourne ...	Iron framed chairs for public halls and theatres.
Mines, School of, Ballarat	Collection of geological specimens of minerals.
New Zealand Loan and Mercantile Agency Co., Limited, Melbourne.	Wheat for export.
Noone, John, Melbourne	Photo-lithographic copies of plans.
Secretary, Royal Commission for Victoria ...	Catalogue of Victorian Court.
Smith & Co., J. & C., Barnawartha ...	Australian wines.
Timbrell, Mrs., Melbourne	Victorian silk.
Trinkans, A., Muckleford	Australian wines.
United Shire of Metcalfe, Metcalfe ...	Polished columns of gray granite from the Harcourt quarries.
Wilson & Mackinnon, Melbourne ...	Engravings from the *Australian Sketcher*.

Certificate of the Fourth Class.

Ballarat Carriage Company, Ballarat ...	A four-wheeled single-seated buggy.
Giles, Ernest, F.R.G S., Kew, Melbourne ...	A four-wheeleed buggy.
Greene & Co., S., Fitzroy	Aërated waters.
Hopper, Thomas, Carngham	Milk-punch.
Polson, Angus, Moyston	Wheat and oats of two kinds.
Smith, George, Ballarat	Pease and wheat.
Spink, E. J. & S., Melbourne	Jams.
Stevenson and Sons, L., Melbourne ...	Hats.

Certificate of the Fifth Class.

Atiken, Thomas, Melbourne	Scotch whiskey.
Penal Establishment, Pentridge	Boots, shoes, and slippers.
Scotch Distillery Co., Sandridge	Scotch whiskey.

WESTERN AUSTRALIA.

Certificate of the Second Class with Bronze Medal.

Meyers & Co., J., Albany	Champagne cider.

Certificate of the Third Class.

Meyers & Co., G., Albany	Aërated waters.
Meyers & Co., J., Albany	Beer.

Foreign.

AUSTRIA.

Certificate of the First Class and of Gold Medal.

Kahl & Co., Krondorf	Natural mineral water from Kronprinzessin Stefani spring.
Kohn, Jacob & Joseph, Teschen	Austrian bent-wood furniture, carved and ornamented.
Luxardo, G., Zara	Maraschino.
Military and Geographical Institute, Vienna ...	Heliograveures.
Neher, Emil	Tin enamelled metal—hollow-ware.
Stampalia, T., Zara	Maraschino.
Silbiger & Co., A., Vienna	Dais and other works in *plain* and *inlaid* marble.
Thonet Brothers, ditto	Austrian bent-wood furniture.

Certificate of the First Class with Silver Medal.

Bruder & Kleinoschez, Graz	Sparkling Muskat champagne.
Ditto ditto	Styrian hock.
deBlaas, O.	Painting "Centaur Robbing Nymph."
deMalchus, C.	Painting "Venice."
Ellissen, Roeder & Co., Vienna	Paper, plain, writing, coloured, and other.
Ferroni, E.	Painting "Festival Day."
Geylings, Carl, Erben	Stained glass windows, &c.
Hasch, C.	Landscapes in oil-colour.
Krainische Industrie, Gesellschaft, Laibach ...	Steel.
Kantorowicz, H., Posen	Liqueurs.
Matkovic, Giov. Qm. A., Knin	Maraschino.
Ditto	Promina wine.
Meltzer & Co., Karl, Langenau	Austrian, Bohemian, and decorative glassware.
Morheim, H.	Painting, "Coming Home from School."
Orfei, O.	Painting "At the Print-dealer's."
Onken, C.	Painting "Autumn Landscapes."
Rollinger, F., Vienna	Stationery.
Ulbrich, Anton, Pullna	Natural mineral water from Pullen, Bohemia.
Vienna Copying School	Copies in oil-colours.

Certificate of the Second Class with Bronze Medal.

Bruder & Kleinoschez, Graz	Styrian clarets.
Ebert, A.	Paintings of heads.

Fay, L.	Painting landscape with cattle.
Fratelli Faber, Trieste	Insecticide powder.
Hirschler, Moritz, Budapest	Natural mineral water from a bitter spring called "Francis Joseph."
Matkovic, Giov. Qm. A., Knin	Brandy.
Milesi, A.	Painting "The First Proof."
Munch & Sohn, Adolf, Vienna	Fez caps.
Vlahov, Romano, *Sebenico*	Maraschino.
Von Nadosy, Koloman	White and red Hungarian wine.

Certificate of the Third Class.

Kantorowiez, H., Posen	Cordials, &c.
Krainische Industrie Gesellschaft, Laibach ...	Steel brand "sava."
Matkovic, Giov., Qm. A., Knin	Vinegar.
Silbiger & Co., A., Vienna	Slabs and tiles of mosaic cement or artificial marble.
Weitzer, Johann, Graz	Five-glass landau.

Certificate of the Fourth Class.

Ferrato, G.	Maraschino.

BELGIUM.

Certificate of the First Class and of Gold Medal.

De Looper, Monnoyer & Co., Jumet ...	Bohemian and decorated glass-ware.
Joveneau, A., Tournay	Chocolate and cocoa.
Koch & Reis, Antwerp	Sulphur.
Meeus, J., Antwerp	"Anchor-Brand" Geneva.
Military Cartographic Institute, Brussels ...	Photo-chromo lithography and heliogravenre.
Société Anonyme de Loth, near Brussels ...	Merino, Cashmir zanellas.
Société Anonyme des Forges de la Providence, Marchienne-au-Pont.	Rolled iron.
Tremouroux Brothers, N. & J., Brussels ...	Enamelled kitchen utensils.
Vande Wynckele, Charles, Ghent	Bleached and coloured yarns of jute, cotton, and flax.
Verviers, Chamber of Commerce of ...	Woollens, tweeds, flannels.

Certificate of the First Class with Silver Medal.

Allan & Co., Antwerp	Railway picks, shovels, hammers, &c.
Ateliers de Brabant, Molenbeek St. Jean, Brussels.	Centrifugal machine for extracting juice from crushed cane.
Benoit Delmotte, Maria Kerke, Ghent ...	White lead.
Cobbaert & Sons, F., Grammont	Safety and ordinary matches.
DeMan, Jan, Antwerp	Cigars.
Goris & Son, Turnhout	Marble papers.
Meeus, L., Antwerp	"Key Brand" Geneva.
Nicolas Wild & Brothers, Ghent	Cotton blankets.
Omnoyez, F., Brussels	Clock-cases made of Belgian marbles.

Société Anonyme pour la Fabrication des Cartouches et Projectiles, Brussels.	Carbines and projectiles.
Tremouroux Brothers, N. & J., Brussels ...	Enamelledware.
Wuidart, J., Jumet	Table and glassware.

Certificate of the Second Class with Bronze Medal.

Meeus, J., Antwerp	Orange bitters.
Ditto	Spirits of wine.
Société des Forges et Laminoirs de l'Alliance, Marchienne-au-Pont.	Wrought iron.
Vande Wynckele, Charles, Ghent	Bleached and dyed yarns of cotton.

Certificate of the Third Class.

Bragard, W., Brussels	Polished slabs of marble.
Koch & Reis, Antwerp	Olive oil soap.
Société Anonyme des Forges de la Providence, Marchienne-au-Pont.	Permanent-way for tramways.

DENMARK.

Certificate of the Second Class with Bronze Medal.

Keir, Carl, Copenhagen	Butter.

EGYPT.

Certificate of the Second Class with Bronze Medal.

Gianaclis, N., Cairo	Cigarettes.

FRANCE.

Certificate of the First Class and of Gold Medal.

Adet, Seward & Cie., Bordeaux	"Bee Hive" brandy.
Challiol & Charmetant, Lyons and Calcutta ...	Silk gauze, silk and gold gauze, shot-silk, crapes, faconnes, satins, and gold brocade, ribbons, velvets, &c.
Chassaing & Cie., Paris	Pharmaceutical preparations; pepsine, and preparations of it.
Compagnie Franco-Suisse (Société Laitiére de l'Est), Besancon.	Milk-food for children.
Dumet, L. J., Paris	Decorative and upholstery silks.
Fourché, T. B., Bordeaux	Liqueurs.
Lalande & Cie., Bordeaux	Clarets, burgundies, and sauternes.
Le Comte, E., Paris	Capsules and materials for corking bottles.

Le Maire, Paris	Optical instruments, opera-glasses, and telescopes.
Perinet & Fils, Reims	Champagne wine.
Perrier, Fils, & Cie., Joseph, Chalons-sur-Marne	Ditto.
Piat, A., Paris	Double-action pump.
Pierre, Dr., Paris	Dentifrices and lotions.
Revel & Fils, Lyons	Silk umbrellas.
Société Général de Produits Alimentaires (Dinant & Allcard, Administrateurs Délégués), Paris.	Preserved vegetables.
Ditto ditto ditto ...	Butter.
Tourtel, P. E., Tantonville, Meurthe-et-Moselle	Hops and barley.
Wachter & Cie., Epernay	"Royal Charter" Champagne wine.

Certificate of the First Class with Silver Medal.

Ackerman-Laurance, Saumur	Sparkling Saumur Champagne.
Adet, Seward & Cie., Bordeaux	Clarets, burgundies, and sauternes.
Bardou, Job	Cigarette papers.
Biardot, Paris	Beads.
Blot, Eugéne, Dunkerque	Figures in terra cotta.
Compagnie Franco-Suisse (Société Laitiére de l'Est), Besancon.	Condensed milk.
Decauville Ainé, Petit-Bourg	Rolling-stock for light railways.
Ditto ditto	Stock and rails for hand-shunting.
Hartog & Cie., Geo., Paris	French polish.
Irroy & Cie., Ernest, Reims	Champagne.
Lalande & Cie., A., Bordeaux	Brandy.
Legrand Brothers, Paris	Imitation gold embroidery.
Martell & Cie., Cognac	Brandy.
Regard Fils, Paris	Imitation precious stones.
Robin & Cie., Jules, Cognac	Brandy.
Rotumeil & Cie., Clichy	Brandy and fine Champagne.
Société General de Produits Alimentaires, Paris.	Sardines in oil.
Thierry, Mieg & Cie., Paris	Imitation tapestries.
Ditto ditto	Wool fabrics.
Ditto ditto	Printed cretonnes.
Tourtel, J. & P., Meurthe-et-Moselle ...	French lager beer.
Velpry, C., Reims, Marne	Pharmaceutical preparations.
Vernin & Cie., Paris	Imitation pearls.

Certificate of the Second Class with Bronze Medal.

Ayala & Cie., Chateau D'Ay	Champagne wine.
Barnett & Sons, Cognac	Brandy.
Bataille, H., Paris	Commercial lithography.
Bravais, Raoul, Paris	"Vernet" natural mineral water.
Challiol & Charmetant, Lyons and Calcutta ...	"Bonnefont" natural mineral water.
Decauville Ainé, Petit-Bourg	Coupling for narrow-gauge line.
Ditto ditto	Engines for portable lines with sharp curves.
De Laage, Fils & Cie., Cognac	Brandy.
De le Cluse, J., Reims	Champagne wine.

Faure, Dr., Pyrenées	Natural mineral water.
Fourché, J. B., Bordeaux	Syrups.
Foursier & Cie., Henri, Domaine de Nojac, Bordeaux.	Clarets.
Fretin, A., Paris	Boots, shoes, and slippers.
Frey, Paris	Jewelry.
Gouarne Frères, Ponance	Tonic wine.
Henriet Ainé, Paris	Boots, shoes, and slippers.
Mignon & Rouart	Pneumatic ice-machine.
Otard, Dupuy & Cie.	Brandy.
Perroux, F. A.	Moulded wooden pilasters.
Rahn & Cie., Cognac	Rum.
Vigneron, H., Paris	Lock-stitch sewing-machine.

Certificate of the Third Class.

Anots Frères, Cognac	Brandy.
Bordes, J. J., Bordeaux	Ditto.
Carré, E.	Ammonical ice-machine.
Charriol & Cie., Paul, Bordeaux	Clarets and sauternes.
Decauville Ainé, Petit-Bourg	Permanent-way for light railways.
Lechaux, Mario, Bordeaux	"Rob-Lechaux dépuratif végétal."
Ralu & Cie., A., Cognac	Brandy.
Regnier, Jules, Dijon	Burgundy.

Certificate of the Fourth Class.

Pére & Fils Bontemps, Paris	Mechanical singing-birds in cages.

Certificate of the Fifth Class.

Bailly & Cie., C., Paris	Medical preparations.
Pillet, Dr. A., Paris	Ditto.

COCHIN CHINA.

Certificate of the First Class and of Gold Medal.

Botanical Gardens, Saigon	Woods.
Cochin China, Government of	Carved furniture and plaques inlaid with mother-o'-pearl.
Ditto ditto	Silk fibres.
Ditto ditto	Opium preparations.
Ditto ditto	Husked rice.
Moquin Tandon, Saigon	Indian cocoa nibs.
Pierre, L.	A book—Flore Forestiere de la Cochin Chine.
Thinam-quan, Mc., Binhhoa	A full-sized representation of a completely furnished Annamite house.

Certificate of the First Class with Silver Medal.

Arcillon, Hatien	Tortoise-shells and fans.
Botanical Gardens, Saigon	A collection of natural history specimens.
Bao Phuac, Canton, Bentre	Husked rice.
Baria, district of	Samples of black pepper.
Chamber of Commerce, Baria	Vegetable dyes.
Ditto ditto Saigon	Ditto.
Ditto ditto ditto	Oil-seeds.
Ditto ditto ditto	A collection of preserved fruits, lotus seed, preserved potatoes, corn, &c,
Ditto ditto ditto	Gelatinous marine moss.
Ditto ditto ditto	Guinea pepper, dried pepper, and black pepper.
Cochin China, Government of	An archæological collection of carved stones, inscriptions, and sculptures.
Ditto ditto	Clothing in various shapes and colours worn by Cochin Chinese men and women.
Ditto ditto	Baskets of various descriptions and cane chairs.
Ditto ditto	A collection of works on language, law, natural history, travels, &c., relating to Cochin China.
Ditto ditto	A collection of silk with figures, illustrating Annamite costumes.
Ditto ditto	Richly embroidered Annamite wearing apparel.
Ditto ditto	Maps and charts of Cochin China.
Ditto ditto	Lacquered Annamite and Chinese books.
Girard, Isle of Phuquoc	Vanilla.
Ditto ditto	Samples of black pepper.
Huyen Tay, Binhhoa	A richly carved and pierced cabinet.
Moquin Tandon, Saigon	Engraved and carved wood.
Poignand, ditto	Annamite painting on glass.
Ditto ditto	A cabinet of pierced wood.
Qui-mo, village of, district Soctrang ...	Husked rice.
Thinam-quan, Me., Binhhoa	Specimens of embroidered silk.
Ditto ditto	Tortoise-shell cups, saucers, and wands.
Trien Nhoc, district Soctrang	Husked rice.
Van Chien, Huynh, Baria	Vegetable dyes.
Van Tang, Ng. do.	Ditto.
Van Thon, Chat, district Soctrang... ...	Husked rice.

Certificate of the Second Class with Bronze Medal.

Baria, district of	Cochin China gums and resins.
Ditto	Raw cotton.

Chamber of Commerce, Saigon	...	Tobacco, leaf and cut.
Ditto ditto ditto	...	Raw sugar.
Ditto ditto ditto	...	A collection of silk cocoons, raw thread, &c.
Cholon, Cornu	...	A collection of paddy.
Cochin China, Government of	...	A collection of Annamite pottery.
Ditto ditto	...	A collection of coloured mats.
Ditto ditto	...	A collection of brass ornaments.
Ditto ditto	...	A collection of hats of various forms and materials.
Ditto ditto	...	A collection of fishing apparatus, chiefly traps, both models and full size.
Ditto ditto	...	A collection of paddy and maize samples.
Ditto ditto	...	Cochin China rhea.
Colombaire, Saigon	...	Ditto vanilla.
Compagnie Francaise, Saigon	...	Husked rice.
Danh Sinh, Soctrang	...	Ditto.
Danh Le ditto	...	Ditto.
DeDints My, Canton, Soctrang	...	Ditto.
Docan Uquan, Soctrang	...	Ditto.
Girard, Isle of Phuquoc	...	Arabian coffee.
Hoa Tuc, village of, Soctrang	...	Husked rice.
Long Xuyen, district of	...	Marine glue, gelatine.
Ly Lat, Soctrang ...	...	Husked rice.
Moquin Tandon, Saigon	...	Porcelain, earthenware pottery.
Ditto ditto	...	Cochin China gums and resins.
Phuoc-Kien, Congregation Soctrang	...	Husked rice.
Phusi-Kien, ditto	...	Ditto.
Poignand, M., Saigon ...	...	Tortoise-shell fans.
Thi-nam-quan, Mo., Binh-noa	...	A collection of decorative brass objects.
Trien Chan, Congregation, Soctrang	...	Husked rice.
Tan Xa, ditto, ditto	...	Ditto.
Van Bang, Ho, Baria, ditto	...	Ditto.
Van Ben, Phan, Soctrang	...	Ditto.
Van Dat, Ng, ditto	...	Ditto.
Van Dong, Ho, ditto	...	Ditto.
Van Manh, Ng, ditto	...	Ditto.
Van Nham Ng, ditto	...	Ditto.
Van San, Tao, ditto	...	Ditto.
Van Trai, village, ditto	...	Ditto.
Xan Dang, ditto	...	Ditto.

Certificate of the Third Class.

An-bee, village, Soctrang	...	Husked rice.
Antap, ditto	...	Ditto.
Catoire, Saigon	...	Rum.
Chamber of Commerce, Saigon	...	Coir ropes and sun (hemp) rope.
Ditto ditto	...	Stick lac.
Ditto ditto	...	Raw silk and cocoons.
Chan Biet, Soctrang	...	Husked rice.
Cholon Usine	...	Ditto.
Cochin China, Government of	...	A model of a river steamer.

Cochin China, Government of	...	...	Models of agricultural implements used by natives of Cochin China.
Ditto ditto	...	...	Rattan chairs.
Ditto ditto	...	...	A collection of feather fans.
Ditto ditto	...	...	Annamite tortoise-shell combs.
Devise & Arens, Saigon	...	...	Soap.
Ditto ditto	...	...	Wax.
Duong Thu, Soctrang	...	...	Husked rice.
Huynh Dao, ditto	...	...	Ditto.
Lam Cong, ditto	...	...	Ditto.
Nen, ditto	...	...	Ditto.
Nham Long, village of, Soctrang	...	...	Ditto.
Thinam-quan, Me., Binhhoa	...	...	A collection of tortoise-shell fans.
Trien Phen, Soctrang	...	...	Husked rice.
Van An, Huynh, Soctrang	...	...	Ditto.
Van Dan, Ng. Soctrang	...	...	Ditto.
Van Gong, Le, ditto	...	...	Ditto.
Van Minh, Dinh, ditto	...	...	Ditto.
Van Nuoi, Huynh, ditto	...	...	Ditto.
Van Thi, Vo	...	...	Ditto.
Van Tho, Ng., ditto	...	...	Ditto.
Van Tins, Mac, Baria	...	...	Ditto.
Van Ul, Lam, Soctrang	...	...	Ditto.
Van Van, Ng., ditto	...	...	Ditto.
Van Vang, Le, ditto	...	...	Ditto.
Van Xung, Huinh, Gocond *	...	...	A collection of basketware.

Certificate of the Fourth Class.

Chamber of Commerce, Saigon	...	...	Smoked salt fish.
Cholon, Usine, Cholon	...	...	Husked rice.
Cohn Bang, Soctrang	...	...	Ditto.
Dan Et, Soctrang	...	...	Ditto.
Hua-co-lam Dong, ditto	...	...	Ditto.
Kiem Doi, ditto	...	...	Ditto.
Long-hung, Sadee	...	...	Ditto.
Ninh Thoi, village Soctrang	...	...	Ditto.
Sung Dinh, ditto	...	...	Ditto.
Tran Uoi, ditto	...	...	Ditto.
Van Agot, Dao	...	...	Ditto.
Van An, Huynh	...	...	Ditto.
Van Con, Luan	...	...	Ditto.
Xuan. Loi, Soctrang	...	...	Ditto.
Van Nham, Ng	...	...	Ditto.
Van Tan, Ng	...	...	Ditto.
Van Tin, Dong	...	...	Ditto.
Van Tho, Tan, Baria	...	...	Ditto.

Certificate of the Fifth Class.

Agricultural Committee, Saigon		...	Nets and models of fishing appliances.

TONQUIN.

Certificate of the First Class and of Gold Medal.

Cabasse, B., Tonquin	Scientific collection of indigenous drugs and medicines of Tonquin.
Puginier, Monseigneur, Bishop of Tonquin, Hanoi.	A collection of inlaid mother-o'-pearl work.
Tonquin, Government of	Non-Indian vegetable dyes.
Ditto ditto	Large and small wooden pagoda statues, from the Thuan Phou Pagoda at Hanoi, pagoda arms lacquered and gilt, lacquered and gilt boxes and baskets.
Ditto ditto	A collection of silk fabrics and the raw material in all stages, a collection of silk apparel.
Ditto ditto	Cocoons, raw silk twists, and silk fabrics of every description.
Ditto ditto	Husked rice.

Certificate of the First Class, with Silver Medal.

Bonnal, French Resident at Hanoi... ...	A collective exhibit of mother-o'-pearl inlaid work.
Ditto ditto ditto	Lacquered and gilt Buddhas on thrones, lacquered statuettes, incense-burners, boxes, desks, screens with inscriptions.
Cabasse, B., Tonquin	Ancient lacquered and gilt wooden Buddhist statues.
Ditto ditto	Lacquered and gilt statues and boxes.
Ditto ditto	Inlaid trays, &c.
Lalande, Hanoi	Trays of European and Chinese designs, large elephant-shaped candelabras, incense-burners, flower-pots, foot-stoves, &c.
Puginier, Monseigneur, Bishop of Tonquin, Hanoi.	Volumes of religious works in Roman and Annamite characters.
Ditto ditto	Brass and copper tea-boards, foot-stoves, and tobacco-boxes; carved white copper basin, trays, old and modern style, of Chinese design.
Ditto ditto	Silk from the Tonquin looms.
Ditto ditto	Lacquered book-covers and carved marble.
Tonquin, Government of	White suits in Tonquin silk.
Ditto ditto	Brass kitchen utensils.
Ditto ditto	Lacquer, a varnish from the sap of a tree—*Dypterocarpus sp.*
Ditto ditto	Embroidered table-cloths, silk hangings, silk valance, gilt stuffs for cushions, cushions and mats, embroidered and gilt valance for altars.

Tonquin, Government of	Vegetable oil for the preservation of wood, &c.
Ditto ditto	Materials for baskets.

Certificate of the Second Class with Bronze Medal.

Cabasse, B., Tonquin	A collection of old inlaid and relief work.
Ditto ditto	Old and modern incense-burners, spherical foot-stove, old and modern vases, and brass gong.
Lalande, Hanoi	Drawings in Indian ink.
Ditto	A set of wall pictures in Indian ink by Annamites, some partially coloured.
Martelliere, Captain, Marine Infantry, Ninh Binh, Tonquin.	Lacquered and gilt Buddha on his throne, lacquered vases, lacquered and gilt statuettes.
Puginier, Monsigneur, Bishop of Tonquin, Hanoi.	Coloured silk pieces manufactured by native Christians.
Tonquin, Government of	Pottery.
Ditto ditto	Bamboo baskets.
Ditto ditto	Til or sesamum oil.
Ditto ditto	Rice; vermicelli, gélatine.
Ditto ditto	A collection of paddy, haricots, green-peas, maize, &c.
Ditto ditto	Rhea from Tonquin.

Certificate of the Third Class.

Erevedy, B., Hanoi	Articles of porcelainware from Tonquin and elsewhere.
Longomasino, ditto	Annamite arms.
Tonquin, Government of	Mandarin hats, caps, and fans.
Ditto ditto	Raw cotton and thread.
Ditto ditto	A collection of timber.

Certificate of the Fourth Class.

Tonquin, Government of	Raw sugar.
Ditto ditto	A silk-spinning machine.

GERMANY.

Certificate of the First Class and of Gold Medal.

Bath Steiber & Son, John, Nuremberg ...	Materials for making thread to work up imitation gold and silver lace and braids.
Ditto ditto ditto ...	Collection of copper yellow and music wire.
Boehm, Gustav, Offenbach	Toilet fancy and bar soap.
Bohne Söhne, Ernst, Rudolstadt	Porcelain goods.
Dauphin, A., Stuttgart	Corks.
Ewald & Co., Rudesheim on Rhine ...	Sparkling moselle and hock.
Ditto ditto ditto ...	Rhine wines.

Hoermann & zu Gutenberg, Carl, Nuremberg ...	Collection of orsidue (leaf-metal)
Loisner	Permanent photographs on porcelain.
Pfutzenreuter, E., Leipzig	Gold, silver, and silk embroidered gloves.
Radische Anilin and Soda Fabrik, Stuttgart ...	Aniline dyes and dyed goods.
Scheidmayer & Co., Stuttgart	Square concert piano.
Volkamer's Wme. & Forster, H. P., Nuremberg.	Collection of orsidue (leaf-metal),
Welte & Sons, M., Frieburg-in-Baden ...	Orchestrion.

Certificate of the First Class with Silver Medal.

Conradi & Friedmann, Limbach	Banians, drawers, & under-shirts.
Heizman, Sigmund, Vöhrenbach	Orchestrion.
Kaiser Brewery. Beck & Co., Bremen ...	German ale.
Kuhn's (E.) Drahtfabrik, Nuremberg ...	Lametta gold thread and silver wire.
Mayer'sche kgl Hof Kunstanstalt, München ...	Ecclesiastical statues.
Mœbius & Sons, H., Hanover	Oils for lubricating watches, chronometers, clocks, sewing-machines, and fire-arms.
Stollwerck Brothers, Cologne ...	Chocolate and cocoa.
Tittel & Krüger, Ragwitz, Leipzig ...	Zephyr wool.
Veeck, Theodor, Idar	Onyx.
Wessel, Ludwig, Bonn	Porcelain, earthenware, and pottery.
Zeitler & Winkelmann, Bramsweig ...	Upright cottage piano.

Certificate of the Second Class with Bronze Medal.

Althead & Co., Brandenberg	Kid gloves.
Boehm, Gustav, Offenbach	Perfumery and toilet requisites.
Constantin & Co., H., Plaine de Walsch, Lorraine	Watch-glasses and watchmakers' glassware.
Felton & Guilleaume, Carlswerk	Iron and steel wire ropes.
Heerbrandt, Gottl, Raguhn, Anhalt ...	Metal weaving.
Hinckel & Winckler, Frankfort	Still hocks.
Konig & Co., Kaiserlautern	Lock-stitch sewing-machine.
Kuhnhert & Co., G., Ernsthal, Saxe-Meiningen	Imitation pearls.
Oehler, K., Offenbach	Aniline dyes and dyed goods.
Opel, Adam, Russelsheimam-Main ...	Lock-stitch sewing-machine.
Schwabe, Dr. W., Leipzig	Homœopathic medicines.
Weigand & Roër, Nordhausen	German sparkling ale.

Certificate of the Third Class.

Farina, Jean Maria, Cologne	Eau de-Cologne.
Felton & Guilleaume, Carlswerk	Patent steel-barb fencing.
Grimme Natalis & Co., Braunschweig ...	Lock-stitch sewing-machine.
Underberg-Albrecht, H., Rheinberg ...	Bitters.

Certificate of the Fourth Class

Hinckel & Winckler, Frankfort	Sparkling moselle and hock.

ITALY.

Certificate of the First Class and of Gold Medal.

Baratta, Aristide, Carrara	Collective exhibit of sculptures.
Candiani, Nap. Dr., Venice	Chandeliers and ornamental glassware.
Fabbrica Lombarda di Prodotti Chimici, Milan	Collection of cinchona alkaloids (quinine and its compounds).
Fornari, A. & G. B., Fabriano	Collection of tanned sheep and goat skins.
Francati, Santa Maria, Rome	Cameos, &c.
Giuli, Alberto. Lorenzani, Pisa	Olive oil.
Military Geographical Institute, Florence. ...	Photogravenres.
Morabito, Rocco, Naples	Coral jewelry.

Certificate of the First Class with Silver Medal.

Brizi, Antonio, Perugia	Olive oil.
Candiani, Nap. Dr., Venice	Secretaire of carved wood.
Carli Ange & Fils, Porto Maurizio ...	Olive oil.
Chiozzi & Turchi, Pontelagoscuro, Venice ...	Emolient soap.
Cinotti, Antonio, Siena	Olive oil.
Conti & Figli, E., Leghorn	Soap in bars, blocks, and cakes.
Dell'Ara & Co., Milan	Terra-cotta statuary.
Fenzi, Alberto, Florence	Olive oil.
Fornari, A. & G. B., Fabriano	Hand-made and coloured papers.
Francati, Santa Maria, Rome	Silver jewelry.
Fratelli, Lanza, Turin	Candles.
Gasparri, Augusto, Leghorn	Carved show-case.
Gazzani, Angelo di G., Maurizio	Olive oil.
Malfettani & Co., Sampierdarena	Cordials.
Mansueto Valsecchi, Milan	Silver jewelry.
Materi, F. P., Grassano	Olive oil.
Milani, Cesare, Fabriano	Chinaware.
Mimbelli, Luca G., Monsummano, Lucca ...	Olive oil.
Morabito, Rocco, Naples	Cameos, carved corals, &c.
Morandu fu I., G., Sampierdarena ...	Vermouth.
Rizzardo, Galli, Milan	Marble bust of modesty.
Savj, Car. B., Turin	Barolo wine.
Societa Ceramica Richard, Milan	Porcelain fittings for spinning-machines, telegraphs, &c.
Ditto ditto ditto	Telegraph and telephone insulators.
Tacchi & Salvestri, Leghorn	Corals.
Zedda & Ronchetti, Cagliari	Italian wines.

Certificate of the Second Class with Bronze Medal.

Battistella, G., Milan	Liqueurs.
Bisleri, F., Milan	Ferro-china.
Bonavera, Tomaso, Oneglia	Liqueurs.
Borrelli, Tomaso, Toire del Greco	Coral.
Caselli, Raffaello, Rome	Italian wines.
De Sena, Elia, Naples	Vermouth.
Fattoria Fenzi, Florence	Italian wines.
Fornari, Antonio, Rome	Decorated glass mirrors.

Fratelli Cerruti, Genoa	... ...	Vermouth.
Ditto	... ...	Cocoa liqueurs.
Fratelli Pagani & Co., Milan	... ...	Saw for gold and silversmiths.
Monevi, E., Genoa	... ...	Linen and cotton shirts.
Palme & Co., G., Pisa	... ...	Chinaware.
Panelli, Giuseppe, Macerata	... ...	Matches.
Pietrogrande, Ant., Este	... ...	Fancy biscuits.
Pratolongo fu Raffaele, Raffaele, Genoa	...	Coral.
Santucci, Ambrogio, Verona	... ...	Brass cornets and Italian concert instruments.
Scala, Giuseppe, Naples	... ...	Italian wines.
Sogno, Bernado, Turin	... ...	Preserved meats.
Ditto	... ...	Pickles.

Certificate of the Third Class.

Cerri, Luigi, Cremona	... ...	Confectionery.
Gazzani, Giuseppe, Regio, Emilia	... ...	Brushes.
Izar, G. B., Milan	... ...	Electro-platedware.
Malfettani & Co., Sampierdarena	... ...	Brandy.
Morandu fu I., G., ditto	... ...	Ditto.
Pietrogrande, Ant., Este	... ...	Confectionery.
Sogno, Bernado, Turin	... ...	Preserved fruits and vegetables.

Certificate of the Fifth Class.

Bonavera, Tomaso, Oneglia	... ...	Medical preparations.

JAPAN.

Certificate of the First Class and of Gold Medal.

Kuhn & Co., Yokohama	... ...	"The Imperial" Cabinet.
Ditto	... ...	Gold lacquered circular tray.
Ditto	... ...	Ivory flower vase, solid ivory vases, inlaid and lacquered, ivory panels and plaques.
Ditto	... ...	Large metal incense-burnor or uru, bronze vases and statuettes.
Stillfried and Anderson, Yokohama	...	Photographs of views in Japan and of a Japanese group.

Certificate of the First Class with Silver Medal.

Kuhn & Co., Yokohama	... ...	Tableaux, screens, and hand-made *susuri*.
Ditto	... ...	Pair of large vases in silver and cloisonné enamel.

Certificate of the Second Class with Bronze Medal.

Kuhn & Co., Yokohama	... ...	Collection of Satsuma pottery.

NETHERLANDS.

Certificate of the First Class and of Gold Medal.

Bensdorf & Co., Amsterdam	Manufactured cocoa.
Fockink, F., Amsterdam	Liqueurs.
Hollandia Condensed Milk Manufactory, Delft	Condensed milk.
Netherland Yeast and Spirit Manufactory, Delft	Imperishable yeast.

Certificate of the First Class with Silver Medal.

Fockink, F., Amsterdam	Geneva.
Hague Butterine Manufactory, Delft ...	Butterine.

Certificate of the Second Class with Bronze Medal.

Netherland Yeast and Spirit Manufactory, Delft	Spirits of wine,
Swinkels, W., Helmond	Turkish red yarns.

Certificate of the Third Class.

Blankenheim and Nolet, Rotterdam ...	Geneva.
Nolet, A. C. A.	Aromatic schnapps.

NETHERLANDS INDIA.

Certificate of the First Class and of Gold Medal.

Batavia Committee	Maps of Java and Batavia.
Ditto	Arabian coffee.
Deli Maatschappij, Sumatra	Tobacco leaf.
deSturler, Jhr. J. W. E, Tjiomas, Java ...	Cinnamon produced on the Tjiomas estate.
Holle, Albert, Tjirohani, Java	Peeled nutmeg.
Ditto ditto	Mace.
Ditto Tjirohani and Sinagar estates, Java.	Prepared and unprepared cocoa.
Netherlands India, Government of ...	Books of engravings of Buddhist temples in Java.
Padang Committee, Sumatra	Kinkhabs, Javanese sarongs, slendangs, and head-dresses.
Ditto ditto	Cassia lignea.
Ditto ditto	Gum dammar.
Ditto ditto	Gum benzoin.
Sumatra-Batavia Committee	Kinkhabs, Javanese sarongs, slendangs, and head-dresses.
Van Maanen, Java	Java coffee (Arabian).
Van Motman, J. G. Th., Dramaga estate, Messrs. Maclaine, Watson & Co., Java.	Tea.
Van Stralendorff, C., Java	Java indigo (Kradjan mark), produced on Kradjan estate, Djoedjacarta.

Certificate of the First Class with Silver Medal.

Batavia Committee	Kadu tobacco.
Ditto	Plans of military barracks, kitchens, lavatories in use in Netherlands India.
Ditto	Views in Java and of Bor Bodoer temple (photographs).
Ditto	Printed saris.
Ditto	Silk fabrics.
Billeton Tin Co., Batavia	Billeton tin.
Deli Tobacco Co., Sumatra	Deli tobacco.
deSturler, Jhr. J W. E., Tjiomas, Java ...	Arrowroot.
Ditto ditto	Nutmeg in shell.
Ditto ditto	Mace.
Gotas and Tjiomas estates	Samples of black pepper.
Holle, Albert, Sinagar, Java	Vanilla pods.
Ditto ditto	Cloves.
Maclaine, Watson & Co., Nangoeng and Dramaga estates, Java.	Vanilla pods.
Ditto and Mr. T. G. Th. Van Motman, Dramaga estate, Java.	Arrowroot.
Ditto, Batavia	Arabian coffee.
Monod de Froideville, F. A., Java ...	Java indigo (B. F. L. mark), produced on Plellan estate, Pecolongan.
Mundt, G., Parakansalak, Java	Arabian coffee.
Netherlands India, Government of ...	Banca tin.
Ditto ditto	Husked rice.
Padang Committee, Sumatra	Mace.
Ditto ditto.	Gutta-susa.
Ditto ditto	India-rubber.
Pecoult & Buffet, Batavia	Samples of plait-work.
Samarang Committee, Java	Kadu tobacco.
Sayers, J., Gemoe, Java	Samples of sugar.
Van Buren, R., Bodja, Java	Kadu cigars.
Van Motman, Dramaga, Messrs. Maclaine, Watson & Co., Java	Mace.
Wiselius, J. A. B., Samarang, Java ...	Photographs.
Ditto ditto ...	Ethnological photographs of the races of the Archipelago.

Certificate of the Second Class with Bronze Medal.

Batavia Committee	Palambung lacquered furniture.
Ditto	Ramch fibre.
Ditto	Arabian coffee.
Baumgarten, F. W., Java	Java indigo (F. W. B. mark), produced in Kenaroen estate, Djoejdacarta.
de Sturler, Jhr. J. W. E., Tjiomas, Java ...	Tapioca.
Ditto ditto ...	Collection of paddy samples.
Ditto ditto ...	Liberian coffee.
Ditto ditto ...	Husked rice.
Holle, Albert, Tjirohani, Java	Arabian coffee.
Ditto, Sinagar and Tjirohani estates, Java.	Tea.
Maclaine, Watson & Co., Batavia	Peeled nutmeg.

Maclaine, Watson & Co., Nangoeng estate, Java.	Liberian coffee.
Ditto and Mr. T. G. Th. Van Motman, Dramaga, Java.	Cinnamon.
Padang Committee, Sumatra	Models of musical instruments in filigree silver-work.
Ditto	Felt and embroidered head-dresses.
Ditto	Cloves.
Ditto	Nutmeg in shell.
Pecoult & Buffet, Batavia	Imitation straw hats made of bamboo.
Samarang Committee, Java	Hand-printed blocks made of ribbon copper.
Ditto	Liberian coffee.
Sourabaya Committee, Java	Toys.
Ditto	Materials for baskets.
Van Motman, T. G. Th., Dramaga, Messrs. Maclaine, Watson & Co.	Cloves.
Van Ende, Tjipantjoe, Java	Collection of cinchona barks.
Wiselius, J. A. B., Samarang, Java ...	Models of boats from Samarang, houses in Western Java, native houses in Central Java, houses at Samarang.

Certificate of the Third Class.

Batavia Committee	Collection of samples of sugar.
Billeton Tin Co., Batavia	Samples of tin ores obtained from different mines.
de Sturler, Jhr. J. W. E., Tjiomas, Java ...	Cinchona barks.
Maclaine, Watson & Co., Nangoeng, Java ...	Husked rice.
Netherlands India, Government of ...	Model of teak-wood bridge in Sumatra.
Padang Committee, Sumatra	Mats.
Phillipeau, F. C., Tjisalak, Java	Tea.
Samarang Committee, Java	Brassware.
Ditto	Arabian coffee.
Sourabaya Committee, Java	Models of fishing appliances.
Ditto	Brassware.
Telok Poetjong estate, Netherlands India ...	Husked rice.

Certificate of the Fourth Class.

Batavia Committee	Collection of umbrellas used by natives as marks of rank and distinction.
Holle, Albert, Tjirohani, Java	Palm sugar.

NORWAY.

Certificate of the Second Class with Bronze Medal.

Joelsen, H., Kristiana	Matches.
Nitedals Tændstikfabrik, Kristiana ...	Ditto.

PORTUGAL.

Certificate of the First Class with Silver Medal.

Mackenzie, Driscoll & Co., Oporto ...	Ports.

MADEIRA.

Certificate of the First Class and of Gold Medal.

Dru Drury, H.	Madeira.
Cassart Gordon & Co., Madeira and London ...	Ditto.

SPAIN.

Certificate of the First Class and of Gold Medal.

Mackenzie & Co., Jerez de la Frontera ...	Sherries.

Certificate of the First Class with Silver Medal.

de Montebello & Co., Alfred	Champagne wine.

PHILLIPINE ISLANDS.

Certificate of the First Class and of Gold Medal.

"El Oriente" Fabrica de Tobacos, Sociedad Anonima, Manilla.	Manilla Cigars.

SWEDEN.

Certificate of the Second Class with Bronze Medal.

Orebro Taendstikfabrik, Orebro	Matches.
Wallenius, Otto, Goteborg	Brandy.

SWITZERLAND.

Certificate of the First Class and of Gold Medal.

Amstutz & Denner, Thoune	Swiss bitters.
Anglo-Swiss Tourists' Equipment Company, Herisau.	Marking of pocket-handkerchiefs in coloured embroidery.
Favre Leuba & Co., Locle, Calcutta, and Bombay.	Watches and clocks.
Patek, Philippe & Co., Geneva	Chronometers, repeater and other watches.

Certificate of the First Class with Silver Medal.

Anglo-Swiss Tourists' Equipment Company, Herisau.	Alpine literature and maps.
Courvoisier Frères, Chaux-de-Fonds ...	Chronometer, repeater and other watches.
Karrer, S., Teufenthal	Musical boxes.
Rose & Co., A., Chemnitz	Hosiery.

Certificate of the Second Class with Bronze Medal.

Anglo-Swiss Tourists' Equipment Company, Herisau.	Swiss Alpine equipment.
Bachsmid, Berne	Cheap watches for workmen in steel, metal, and silver cases.
Courvoisier & Co., Chaux-de-Fonds ...	Fancy and cheap watches.
Schöchlius, W.	Collection of Swiss watches in gold cases.

Certificate of the Third Class.

Bornand & Hoesli, J.	Musical boxes.

TURKEY.

Certificate of the First Class with Silver Medal.

Bichara, Michel & Co., Jerusalem	Shells from the Red Sea, mother-o'-pearl, and other articles of Palestine industry.

UNITED STATES OF AMERICA.

Certificate of the First Class and of Gold Medal.

Avery and Sons, B. F., Louisville, Ky. ...	Hindustani-American stock plough.
Juvet and Co., New York	Relative time-globes.
Leonard and Ellis, New York	Valvoline.
Smith and Sons	Parlour organs.
Tennant and Co., D. B., Petersburg, Virginia...	Cavendish tobacco.
Vogeler Co., Charles A., Baltimore ...	St. Jacob's oil.

Certificate of the First Class with Silver Medal.

Blackwell and Co., W. T., Durham, N.C. ...	Long-cut tobacco.
Lawton and Co., Boston, Mass.	Absorbent cotton-wool.
Mason and Hamlin	American organ.
McKisson and Robbins, New York ...	Capsuled pills.
Remington, Prof. J. P., Philadelphia ...	Pharmaceutical still.
Steers, S. B., New York	Model of the new Morse cotton-compresser.
Weston, Hon'ble Byron, Dalton, Mass. ...	Linen ledger and record paper.
Young Ladd and Coffin, New York ...	Lundborg's perfumery.

Certificate of the Second Class with Bronze Medal.

Enterprise Manfg. Co., Philadelphia ...	Enterprise tincture-press.
Faber, Eberhard, New York	Pencils, sharpeners, erasers, rubber bands.
Goulds' Manufacturing Co., Seneca Falls, New York.	Rotary-power pumps, rotary hand-pumps, steam-power pumps.
Ditto ditto ditto ...	Hand-pumps.
Hartshorn, Stewart, New York	Spring map-rollers.
Ditto ditto	Window-blind rollers.
Lanman and Kemp, New York	Florida water.

Certificate of the Third Class.

Anson-Mills, Col., Washington, D.C. ...	Woven cartridge-belts.
Domestic Manufacturing Co., New York ...	Lock-stitch sewing-machine.
Fellow's Medical Manufacturing Co., New York.	Fellow's syrup of hypophosphates.
Lawton and Co., Boston, Mass.	Absorbent cotton for medical purposes.
Shipman's Sons, Asa L., New York ...	Adhesive letter-file.

Certificate of the Fourth Class.

Perry Davis and Son, Providence, Rhode Island.	Pain-killer.

Certificate of the Fifth Class.

Lanman and Kemp, New York	Bristol pills.

Indian.

ANDAMAN AND NICOBAR ISLANDS.

Certificate of the First Class with Silver Medal.

Cadell, Col. T., V.C., Chief Commissioner and Superintendent, Andaman and Nicobar Islands, Port Blair.	A collection of objects made and used by the inhabitants of the Andaman and Nicobar Islands.
Forests, Deputy Conservator of, Port Blair ...	A collection of timbers.

ASSAM.

Certificate of the First Class and of Gold Medal.

Alyne Estate, Cachar	Tea.
Amgoorie Estate, Assam	
Boorcoah, K. K. Gogai Hatti, Jorehat ...	Cocoons of mulberry and wild silk-worm.
Campbell, T. J., Officiating Assistant Conservator of Forests, Tezpur.	India-rubber.
Chardwar Estate, Assam	Tea.
Dhunsiri Tea Co., Ld., Assam	
Dinjan Estate, Assam	
Eastern Cachar Tea Co., Ld., (Binnakandy), Cachar.	
Jokai Tea Co., Ld., (Jameerah Garden), Assam.	
Kannyhatty Estate, Sylhet	
Koomber Estate, Cachar	
Larsingah Estate, Cachar	
Luskerpore Estate, Sylhet	
Manipur, H.H. the Maharajah of, Sir Chunder Kirti Sing, K.C.S.I.	A collection of cotton and silk wearing-apparel and other fabrics.
Ditto ditto ditto ...	A collection of gold jewelry.
McCabe, R. B., Deputy Commissioner, Naga Hills.	A collection of appliances, implements, garments, weapons, ornaments, &c., used by the various Naga tribes.
Tarrapore Tea Co., Ld., (Burtoll Garden), Cachar.	Tea.
Ditto ditto (Labac Garden)	
Ditto ditto (Thâilu Garden)	

Certificate of the First Class with Silver Medal.

Agriculture, Director of, Assam	Native agricultural implements.
Assam, Government of	A collection of clothing and other fabrics.
Ditto ditto	A collection of costumes of aboriginal races of the Eastern Frontier, models of agricultural appliances, &c.
Ditto ditto	Wax.
Central Cachar Tea Co., Ld., Cachar ...	Tea.
Chudwa Estate, Assam	
Doloo Estate, Cachar	
Eastern Assam Co., Ld., Assam	
Evanor Estate, Assam	
Kannykoory Estate, Cachar	
Kewacherra Estate, Sylhet	
Lalla Khall Estate, Sylhet	
Laojan Estate, Assam	
Manipur, H.H. the Maharajah of, Sir Chunder Kirti Sing, K.C.S.I.	A collection of arms, clothes, and implements from Manipur.
Oaklands Estate, Assam	Tea.
Old Tezpore Concern, Assam	
Peet, Major H. J., Deputy Commissioner, Kassia Hills, Shillong.	Wax.
Ramgaon Estate, Assam	Tea.
Roopacherra Garden, Cachar	
Scottish Assam Co., Ld., Assam	
Sylhet Tea Co., Ld., Sylhet	

Certificate of the Second Class with Bronze Medal.

Agriculture, Director of, Assam	Husked rice.
Amo Estate, Sylhet	Tea.
Boisah Habi Concern, Assam ...	Collection of fibres.
Borooah, K. K. Gogai Hatti, Jorehat ...	
Borrelli Tea Co., Ld., Assam	Tea.
Burkhola Tea Co., Ld., Cachar	
Campbell, T. J., Offg. Assistant Conservator of Forests, Tezpur.	Indian gums and resins.
Cherra Tea Co., Ld., Cachar	Tea.
East India Tea Co., Ld., Cachar	
Endogram Tea Co., Ld., Cachar	
Ghiladarrie Concern, Assam	
Hattibaree Estate, Assam	
Lakatoorah Tea Co., Ld., Sylhet	
Lungla Estate, Sylhet	
Lydiacherra Estate, Cachar	
Maddenpore Estate, Sylhet	
Majulighur Estate, Assam	
Morapore Garden, Sylhet	
Mukalbarie Estate, Assam	
Muttuck Tea Co., Ld., Assam	
Peet, Major H. J., Deputy Commissioner, Khasia Hills, Shillong.	Gold necklet, ear-rings, silver necklace, crown, and plume.
Ditto ditto ditto ...	Wax.
Sagurnal Tea Estate, Sylhet	Tea.
Shabazpore, Sylhet	
Silcoorie Estate, Cachar	
Singla Estate Sylhet	

Tarapore Tea Co., Ld., (Dewan garden), Cachar	Tea.
Tekulpar and Salgunga, Cachar	
Tezpore Tea Co., Ld., Assam	
Upper Assam Tea Co., Ld., Assam ...	

Certificate of the Third Class.

Assam, Government of ...	Nets and models of fishing appliances.
Chundeecherra Estate, Sylhet	Tea.
Copeland, D. P., Assistant Conservator of Forests, Garo Hills Division.	Indian gums and resins.
Dejoo Tea Co., Ld., Assam	Tea.
Dibroogarh Combination, Assam	
Dilkoosh Tea Estate, Cachar	
Doolahat Estate, Assam	
Durrung Tea Co., Ld., Assam	
Jorehaut Tea Co., Ld., Assam	
Kallinuggur Garden, Cachar	
Kellyden Estate, Assam	
Loobah Tea Co., Ld., Sylhet	
Manipur, H.H. the Maharajah of, Sir Chunder Kirti Sing, K.C.S.I.	Two ivory mats.
Nahor Habi Estate, Assam	Tea.
Nellie Estate, Assam	
Ohat Estate, Assam	
Old Tezpore Concern, Assam	
Salonah Garden, Assam	
Sootea Estate, Assam	
Trotter, Major W. F., Manipur	Kangroos, Meyankuri Eri, and Mogah silks.
West Jalingah Garden, Cachar	Tea.

BENGAL.

Certificate of the First Class and of Gold Medal.

Abdul Ghani, Nawab, C.S.I., and Nawab Ahsanullah Khan Bahadur, Dacca.	Jewelled *dastbands*.
Anderson, Dr. J., Calcutta	A collection of archæological specimens.
Ansell, C. W., Kurseong	Tea-sorting and winnowing-machine.
Bengal, Government of	Ivory carvings.
Ditto	Life-size models of various tribes, prepared by Jadu Nath Pal of Krishnagur.
Burn & Co., Raniganj	Pottery and earthenware.
Ditto	Drainage-pipes and disconnecting traps.
Calcutta Art Studio	A collection of paintings in oil and water colours.
Chenga Tea Co., Ld., Darjiling	Tea.
East Indian Railway Co., Ld.	A working model of the Kurhurbari collieries.
Educational Department, Bengal	Systems of education—school books, manuscripts and works of pupils in schools.

Ellenbarrie Tea Co., Ld., Dooars	Tea.
Haji Peeru Khan and Mahomed Wazir, Patna	Elephant *jhul*.
Home, A. L., Conservator of Forests, Darjiling	A collection of timbers.
Hussein Arif, Entally	A collection of silks for the Burmese market.
Kanhy Lal Dey, Rai Bahadur, F.C.S., Calcutta.	Scientific collection of the indigenous drugs of India.
Ditto ditto ditto ...	Scientific collection of articles of native dietary.
Lebong Tea Co., Ld., (Barnesbeg Garden), Darjiling.	Tea.
Lithographic Office, Survey of India ...	Lithographs of archæological and other subjects.
Manson, F. B., Calcutta	A gateway made of Indian woods.
Ditto	Wood for tea-boxes.
Mohendra Nath Bhattacharjee, Deputy Magistrate, Bogra.	Husked rice.
Mukharji, T. N., officer in charge of the Exhibition Branch, Government of India.	A collection of oil-seeds.
Ditto ditto ditto ...	A collection of spices.
Ditto ditto ditto ...	A collection of husked rice.
Muni Lal Nahar, Azimganj	A collection of coloured silks.
Nitai Charan and Jaga Bandhu Basak, Dacca ...	Dacca muslins.
Ooldalcah Estate, Chittagong	Tea.
Photographic Office, Survey of India ...	Photographs and photo-lithographs.
Promotha Nath Mukerjee	Husked rice.
Rendall, A. W., Syedpur	Coupling for narrow-gauge railway.
Runglee Rungliot Tea Co., Ld., Darjiling ...	Tea.
School of Art, Calcutta	A collection of oil and water-colour paintings.
Soom Tea Co., Ld., Darjiling	Tea.
Sourendro Mohun Tagore, Raja, C.I.E., Calcutta.	Musical instruments.
Survey of India	A collection of maps, charts, &c.
Teesta Valley Tea Co., Ld., Darjiling ...	Tea.
Telegraph Workshops, Alipur	Telegraph instruments and apparatus.
Thompson & Mylne, Beehea	Beehea sugar-mill.
Wace, A. A., Deputy Commissioner, Darjiling	A collection of cotton fabrics and articles of wearing apparel.
Watt, Dr. George, Calcutta	The Economic Court as a collective exhibit.
Wilkinson, Brigadier-General, H. C., C.B., Fort William.	Silos.

Certificate of the First Class with Silver Medal.

Ambica Churn Cowar	Calcutta garnet shell-lac.
Ambler & Co., Monghyr	Slates.
Apjohn, J. H., M.I.C.E., Balasore... ...	Model of sluice shutters for the Chitpore lock.
Army Clothing Agency, Alipur	Military clothing.
Behary Lall Dass	Drawings for the Museum.

Bengal Economic Museum	A collection of oil-seeds.
Ditto ditto	A collection of spices.
Bengal, Government of	A collection of costumes, spears, &c., purchased from aboriginal tribes,—Shans, Karens, Kamptis, Abors, Nagas, &c.
Bond, Mrs. H., Cuttack	*Ghi.*
Burn & Co., Raniganj	A collection of tiles, terra cotta, fire-bricks, pipes, &c., of Indian manufacture.
Calcutta Art Studio	A painting.
Chittagong Local Committee	Husked rice.
Coakthim Estate, Nepal	Tea.
Darjiling-Himalayan Railway Co., Ld. ...	Model of Darjiling locomotive.
deFabeck, Dr. F. W. A., Calcutta... ...	Landscapes, portraits, &c.
Deveria, Jules, Sahebganj	Filature reeled tasar silk.
Dooars Tea Estate, Dooars	Tea.
Driver, W. H. P., Ranchi, Chota Nagpore ...	A collection of agricultural, musical, and domestic instruments used by the aboriginal tribes of Chota Nagpore; also wearing apparel, ornaments, food products, &c.
East Indian Railway Co., Ld.	Models of railway and tram cars.
Economic Court, Officer in charge of ...	Indian coffee from Madras.
Fazle Rabbee, Munshi, Murshidabad ...	A collection of bidriware.
Fouracres, C., Seebpore	Models of Sone weir excavator and lock-gates for Sone canal.
Ghat Check Estate, Chittagong	Tea.
Gibbs, Hon'ble J., Calcutta	A collection of military medals.
Gielle Tea Co., Ld., Darjiling	Tea.
Goomtee Tea Co., Ld., Darjiling	
Hill & Co., Henry, Tureoulea Indigo Factory, Champaran.	Indigo.
Hunt, J., Muzaffarpur	Indigo and other drills.
Hur Gopal Sing, Calcutta	Machine for making gold and silver Indian thread.
Imperial Museum, Calcutta	A collection of domestic pottery and plaster casts taken from life by Dr. J. Anderson, F.R.S.
India, Government of	Native agricultural implements, &c.
Ishapore Gun Powder Factory	Powder.
Jail, Superintendent of Bhagalpur ...	Carpets.
Ditto ditto	Indian vegetable dyes.
Ditto Hazaribagh ...	
Ditto Presidency, Press ...	Specimens of stereo and electrotype.
Jinglam Tea Co., Ld., Darjiling	Tea.
Kalej Valley Estate, Darjiling	
Kankee Estate, Chota Nagpore	
Kasipur Foundry and Shell Factory ...	A collection of articles manufactured at the factory.
Koilas Chandra Rajak, Bishanpur	A collection of silk fabrics, *saris*, *dhutis*, coloured silks, &c.
Kunnoo Lal Shaw & Co., Dinapur ...	Table-cloths, napkins, towels.
Kurseong and Darjiling Tea Co., Ld., Darjiling	Tea.
Lala Ban Behari, Kapur, Burdwan ...	Collection of fishing-lines.

Margaret's Hope Estate, Darjiling ...	Tea.
Mechi Tea Estate, Darjiling	
McCann, Dr. H. W., Calcutta	Collection of exhibits illustrating the work of the Bengal Educational Department.
Mohesh Chunder Bose, Calcutta	An improved lock.
Mukharji, T. N., officer in charge of the Exhibition Branch, Government of India.	Stick, seed, button lac, &c.
Ditto ditto	Collection of native agricultural implements.
Nand Lal Banerjee, Overseer, Behar ...	Husked rice.
Nandu Jeti, Mansinghpattan, Cuttack ...	Collection of silver ornaments, betel-holders, scent-holders, &c.
Nilmadhub Koondo	Birbhum button lac and shell-lac.
Pullan, Lt.-Col. A., S.C., Calcutta	Water-colour landscapes.
Radasham Gooye, Midnapur	Silk fabrics and raw silk.
Richardson, G. A., Deputy Conservator of Forests, Buxa Division, Bhutan.	Wood for tea-boxes.
Schaumburg, Jules, Calcutta	Figure and landscape paintings.
School of Art, Calcutta	Two copper plaques and two vases of repoussé work.
Ditto ditto	Specimens of work by pupils.
Selim Hill Estate, Darjiling	Tea.
Sibni Si, Mansinghpattan, Cuttack ...	*Hukka* in filigree silver.
Singbully and Murmah Tea Co., Ld., (Singbully Division), Darjiling.	Tea.
Small Arms Ammunition Factory, Dum-Dum, Superintendent of.	Munitions of war.
Sree Nath Chuckerbutty, Manager, zillah Kunika.	Husked rice.
Tanner, Lt.-Col. H. C. B., Bo. S.C., Calcutta ...	Water-colour drawings.
Taylor, W. C., Khurda, Orissa	Comb honey.
Ditto ditto	Apis dorsata comb.
Telegraph Workshops, Alipur	Show case, joinery work, instruments, &c.
Trigonometrical Branch, Survey of India ...	Solar photographs.
Wace, A. A., Deputy Commissioner of Darjiling	Collection of jewelry.
Waterhouse, Major J., Calcutta	Heliogravures, photo-collotypes.
Weekes, Arthur, Collector of Purneah ...	Collection of *bidri*-ware.
Wilkinson, Brigadier-General H. C., C.B., Fort William.	A collection of military service kit, flags, trophies, saddlery, &c.

Certificate of the Second Class with Bronze Medal.

Ambler & Co., Monghyr	Mill-stones.
Baintbaree Tea Co., Ld., Dooars	Tea.
Bannockburn Estate, Darjiling	
Bengal, Government of	Nets and models of fishing appliances.
Brojendra Gopal Chandra Adharjea, Jalghati, Bankura.	Husked rice.
Burn & Co., Raniganj	Drainage-pipes.
Burrakur Iron Works	A collection of iron castings.
Calcutta Art Studio	Bengali Atlas, copy-books, and alphabet sheets.

Cambrian Estate, Darjiling	Tea.
Dilaram Estate, Darjiling	Tea.
Douglas, J. C., Alipur	Extracted honey from Sindh.
Ditto ditto.	Ditto from Katra.
Driver, W. H. P., Ranchi, Chota Nagpur ...	A collection of fibres.
Elson, Samuel Remfry, Calcutta	*Signal flags.*
Haji Abdur Rahim, Cuttack	Ornamental silver centre piece supporting an *attardan.*
Haji Mahomed Mundul and Sheikh Lall Mahomed, Jangipur	Raw silk.
Hill & Co., Henry, Mackwah Factory, Champaran.	Indigo.
Jhoomuck Shaw & Co., Dinapur	Collection of cotton fabrics.
Kali, Dr. C. C., Pabna	Filter.
Khaliludeen Ahmed	Drawings for the Museum.
Kumar Baikuntha Nath Dey, Hon'ble ...	Uriya Atlas.
Kunnoo Lall Shaw & Co., Dinapur ...	Plain and twilled Behar tasar and korah silk.
Lalla Motee Ram	Collection of embroidered and plain Delhi shawls.
Lebong Tea Co., Ld., (Tukvar Garden), Darjiling.	Tea.
Manson, F. B., Calcutta	Collection of fibres.
Mia Jan, Patna	Glassware.
Mukharji, T. N., officer in charge of the Exhibition Branch, Government of India.	Collection of ploughs.
Ditto ditto	Collection of fodders of Bengal.
Ditto ditto	Collection of cottons.
Native Girls' Roman Catholic School ...	An embroidered cape.
Nazar, Miss A., Head Mistress, Calcutta Free School.	Needlework.
Paran Chandra Pal and Moti Lall Pall, Ghurnia, Kishnagar.	Clay models representing Bengali ceremonials.
Perry, R., Officiating Principal, Dacca College, and Superintendent, Dacca Survey School.	Specimens of work by pupils.
Pioneer Estate, Chittagong.	Tea.
Purneah, Collector of	Native agricultural implements.
Quinn, C. C., Collector of Sarun	Collection of basket-work and bamboo cages.
School of Art, Calcutta	Wood-engraving
Ditto ditto	Collection of brackets and vases.
Ditto ditto	A carved cabinet.
Second Fallodhi Tea Co., Ld., Darjiling ...	Tea.
Sreedhur Chuckerbutty, Forest Ranger, Jalpaiguri.	Wood for tea-boxes.
Taylor, W. C., Khurda, Orissa	Extracted honey.
Telegraph Workshops, Alipur	Wire-testing and paper-punching machines.
Turzum Estate, Darjiling	Tea.
Wace, A. A., Deputy Commissioner of Darjiling	A collection of musical instruments from Bhutan, Thibet.
Ditto ditto	A collection of cotton fabrics.

Certificate of the Third Class.

Avongrove Estate, Darjiling	Tea.
Baptist Mission Female Orphanage, Cuttack ...	Needlework.

Bengal Economic Museum	Silk, cocoons, &c.
Bhagalpur, Collector of	Indian gums and resins.
Bible and Tract Society, Calcutta	A collection of Bibles and other books printed in Oriental languages at Mission presses.
Bogola Nund Mukerjee, Manager of A. N. Roy's estate.	Husked rice.
Burrakur Ironworks	Pig iron.
Calcutta Art Studio	Specimens of lithographic printing.
Chontong, Darjiling	Tea.
Chater, Joseph, Sitarampur	Improvements in permanent-way for railways.
Church of England, Zenana Mission Boarding School.	Needlework.
Clay, A., Chairman, Manbhoom Exhibition Committee.	Tasar cocoons, yarns, &c.
Darjiling Tea Co., Ld., (Ging Garden), Darjiling.	Tea.
Dhundibree Estate, Darjiling Terai ...	
Driver, W. H. P., Ranchi, Chota Nagpore ...	Cocoons of wild silk-worms.
Economic Court, Officer in charge of ...	A collection of raw sugars.
Floyd, James Henry, Jamalpur ...	Keyless railway chair.
Gaya Branch Exhibition Committee ...	Tasar cocoons.
Green, W. M., Deputy Conservator of Forests ...	Indian gums and resins.
Hussein Bax, Patna	Glassware.
Loretto Convent, Entally, Lady Superior ...	Fancy-work.
Mogulcatta Tea Estate, Dooars ...	Tea.
Moondakoti, Darjiling	
Nowrea Nuddy Estate, Dooars	
Palamow Division, Assistant Conservator of Forests in charge of	Indian gums and resins.
Poobong Estate, Darjiling	Tea.
Ranicherra Estate, Dooars	Do.
Richardson, G. A., Conservator of Forests, Buxa Division, Bhutan.	Cocoons of wild silk-worm.
Ditto ditto ...	Indian gums and resins.
Sarson, W., Chittagong	Indian coffee.
Sedgwick, Major W., R.E., Calcutta ...	Model of Sedgwick's hill railway.
Sonthal Pargannahs, Deputy Commissioner of	Tasar cocoons.
Sreedhur Chuckerbutty	Indian gums and resins.
Sungma Tea Association, Darjiling ...	Tea.
White, Mrs. Douglas, Calcutta	Old Italian point lace.
Wilkinson, Brigadier-General, H. C., C.B., Fort William.	A pair of spring lances.
Wylly, H. P., Manager of the Moharbhanj Estate	Tasar.

Certificate of the Fourth Class.

Bundo Lal Banerjee	Collection of food-grains.
Gya Branch Exhibition Committee ...	Gaya stone-carving and vessels of stone.
Jail, Alipur	Alarm clock for the use of jails.
Mohendra Nath Bhuttacharjee, Bogra ...	Collection of paddy and other food products.
Paran Kissen Mookerjee	A spinning-machine.
Quinn, C. C., Collector of Saran	A collection of Sewan pottery.

BOMBAY.

Certificate of the First Class and of Gold Medal.

Anglo-Indian Spinning Manufacturing Co., Ld., Bombay.	Collective exhibit of cotton, from raw through its different processes to yarn.
Bana, R. H., Nawsari, Baroda State ...	Collection of Indian essences.
Baroda, H.H. the Gaekwar of ...	Portion of a carved wooden house front and three book-stands carved in sandal wood.
Cooverjee Cowasjee, Nawsari, Bombay ...	Collection of syrups.
Gordon, J., Secretary of the Chamber of Commerce, Bombay.	Collection of oilseeds.
Indian Manufacturing Co., Ld., Bombay ...	Grey shirtings, T-cloths, domestic *dhutis*, &c.
Maganbhai Hathsing, Ahmedabad ...	A cabinet carved in teak wood, a carved writing-box, picture-frame, and inkstand.
Manockjee Petit Manufacturing Co., Ld., Bombay.	Tickings, trowserings, ginghams, &c.
Nayanagar, H.H. the Jam Sahib of, Kathiawar.	Indian pickles.
Sassoon and Alliance Silk Manufacturing Co., Ld., Bombay.	Silk fabrics and silk yarns.
Shamlal, Chunilal, Nathubi, and Phattechand, Bombay.	Mixed fabrics with gold thread, *kinkhabs*, &c.
Sir Jamsetji Jijibhai's School of Art, Bombay...	Collection of oil-paintings, and copies of Ajanta Cave wall paintings.
Vaneyek Hurris Chandra, Bombay ...	Indian toys.
Van Ruith, Horace, Bombay	Figures, landscapes, and portraits.
Watson & Co., R., Bombay	Raw silk, white and yellow.

Certificate of the First Class with Silver Medal.

Albert and Victoria Museum, Superintendent of, Bombay.	Native agricultural implements.
Art Pottery Works, Bombay	Collection of pottery.
Bapty Brothers, East India Flour Mills, Bombay.	Flour.
Baroda State	Mangoe jelly and pear jelly.
Bhavanagar, H.H. the Thakoor Sahib of, Kathiawar.	Part of a marble *chatri* and plaster-of-Paris busts.
Bombay, Government of	Jewelry from Bombay and Aden.
Bombay Steam Soap and Candle Works Co., Ld., Bombay.	Fancy, bar, and medicated soaps.
Campbell, J. M., Bombay	Samples of salt.
Crawford, A., Bombay	Collection of stuffed birds indigenous to India.
Grant, T. H., Collector of Bombay ...	Husked rice.
Griffiths, John, Bombay	Portraits in oil-colours.
Gyanu Pandu and Gungaram Dullubh, Nasik.	Brass and copperware from Nasik and Poona.
Gupte, B. A., Bombay	Collection of clays, pigments, &c., used in Indian pottery.

Haji Mahomed Dhoraji, Kathiawar ...	*Indian toys.*
Jamnagar, H.H. the Jam Sahib of ...	*Collection of mixed fabrics.*
Jehanger Shaw, Mrs., Surat	Embroidered peacocks worked in gold and colours.
Khairpur, H.H. Mir Ali Murad Khan, Talpur of.	Enamel-mounted sword and gold-mounted dagger.
Leith, E. Tyrrell, Bombay	Collection of idols, models of aborigines, specimens of clothing and of silk and cotton looms, agricultural appliances, and other ethnological exhibits.
Macdonald, Dr. D., Bombay	Collection of spices.
Mackenzie, T. D., Collector of Tanna ...	Extracted honey.
Manockjee Petit Manufacturing Co., Ld., Bombay.	Hosiery and thread.
Marcks & Co., C., Bombay	Jewelry.
Morarjee Goculdass Spinning and Weaving Co., Ld., Bombay.	Grey shirtings, T-cloths, domestic *dhutis*, &c.
Ditto ditto	Collection of yarns.
Omersing Mawji and Jaradi Dave Kuvar Kavji Bhuj, Katch.	*Collection of silverware.*
Poona, Collector of	Indian gums and resins.
Ramjee Bhagwan	Jewelry from Bombay and Aden.
Remedios, C. D., Tanna	Samples of the different designs and colours of silk fabrics made at Tanna, Sindh.
Roberts & Co., John, Bombay	Billiard table and accessories.
Ditto ditto	Ivory billiard balls.
Talbot, W. A., Assistant Conservator of Forests, North Canara.	Collection of timbers.
Tribhuvan Lakhemidas, Baroda	A brass lock with three keys.
Vuccino & Co., P., Bombay	Photographic portraits.

Certificate of the Second Class with Bronze Medal.

Allebhai Tajbhai, Surat	Silk fabrics, *kinkhabs*, &c.
Bana, R. H., Nawsari, Baroda	Fancy and bar soap.
Ditto ditto	Indian sauces.
Bassa Lingappa Kosti, Belgaum	Silk *sáris*.
Bombay Committee for the Calcutta International Exhibition.	Collection of turbans and hats.
Cabul Wallad Mahomed Yusuf, Bombay ...	Collection of pottery from Halla in Sindh.
Carnac Iron Works Co., Ld., Bombay ...	Twin screw launch engines.
Ditto ditto	Iron shed.
Central Jail, Terrowa, Poona, Surgeon-Major S. M. Solomon, Superintendent.	Carpets.
Colaba Land and Mill Co., Ld., Bombay ...	Collection of specimens of cotton, showing its form from a raw state through the different processes to yarn.
Cursetjee and Sons, Ahmednagar	Indian curry-powder.
Cursetjee Naserwanjee and Sons	Preserved mangoes and gooseberries.
Ditto ditto	Chutnies.
Ditto ditto	Indian pickles.
Danabhai Musabhai, Bombay	Embroidery in gold and silver thread and imitation pearls.

Gupte, B. A., Bombay	Dried plantains.
Kaiser-i-Hind Spinning and Weaving Co., Ld., Bombay.	Grey shirtings, T-cloths, and domestic *dhutis*.
Kandas Jibhai, Cambay	Collection of Cambay stone work.
Mahomed Jaffer, Bombay	Collection of lacquer on wood.
Marcks & Co., C., Bombay	Collection of watches, repeaters, chronographs, calendar, and fancy and cheap watches.
Ditto ditto	Turret time-piece and a quarter musical clock.
Morarjee Goculdass Spinning and Weaving Co., Ld., Bombay.	Hosiery.
Nursey Khatoo, Bombay	White and brown wool.
Purshotam Mistry, Baroda	Brass locks and keys.
Ratnagiri, Collector of	Kokam oil.
Santaya, Bombay	Two caskets carved of sandal wood.
Shápurji Burjoiji, Surat	Dyed yarn.
Shew Shunkar Narayen, Bombay	Views in India (photographs).
Shunker Harrichand, Bombay	Iron fire-proof safes.
Sorabji Cowasji Bhagalia	Inlaid sandal-wood work.
Soraji Tamasji Billimora, Baroda	A chess table inlaid with ivory in coloured wood.
Soundy & Co., Bombay	Square concert piano.
Tribhuvan Lakshmidas, Baroda	A brass lock with two keys.

Certificate of the Third Class.

Ahmednagar, Deputy Collector of ...	Tasar cocoons.
Ditto Municipality of	Samples of silk.
Baroda, H.H. the Gaekwar of	Collection of gold and silver embroidery.
Ditto State	Models of native astronomical instruments.
Ditto Central Exhibition Committee ...	Indian grass oil.
Bombay Mills	Flour.
Ditto Municipality	Model of the island of Bombay.
Carnac Iron Works Co., Ld., Bombay ...	Steam launch.
Chitrashala Press, Poona	Chromo-lithography.
Cursetjee Nusservanjee and Sons, Ahmednagar	Milk punch.
Dyal Trineum, Cambay	Cambay stone ornaments.
East India Art Manufacturing Co., Bombay.	A drawing-room cabinet.
Forest Department, Baroda	Rusa grass oil.
Gopal Ramchandra Sawantwadie	Lacquerware. A set of *playing*-cards on which the incarnations of Vishnu are represented.
Government Farm, Bhadgaon, Khandesh, Superintendent of.	Cheese.
Grant, J. H., Collector of Bombay ...	Collection of food-grains.
Gunnesh Daji, Gudre, Poona	A terrestrial globe.
Krithnath, Bombay	Parrot in fancy wool-work.
Mulchand Kashiram, Surat	Carved boxes from Surat.
Noor Mahomed, Bhuj, Katch	Collection of arms for decorative purposes.
Serabji Jamasji, Nawsari, Bombay ...	Castor oil.

Certificate of the Fourth Class.

Ahmednagar Municipality	Husked rice.
Carnac Iron Works Co., Ld., Bombay ...	Marine return multitubular boiler.
Charpié and Co., Bombay	Cheap metal and silver watches.
Janardhun Wasnedeva Godbole, Bombay ...	Maps in Mahratti.
Junagad, H.H. Bahadur Khewji Nawab Saheb of, Kathiawar.	Collection of specimens of agricultural products.
Nadig, Anunt P., Canara	Basket craved in soapstone.
Navanagar, H.H. Sir Vibhaji, K.C.S.I., Jam Saheb of, Kathiawar.	Agricultural products of Kathiawar.
Oldham, F. K., Bombay	Reeds and healds.

Certificate of the Fifth Class.

Pestonjee Kalpatio, Surat	A teakwood carved door.
Ratnagiri School of Industry	Furniture.
Shamsadin Allebhoi, Tanna	Collection of glass bangles.

BURMA.

Certificate of the First Class and of Gold Medal.

Barangah Oil Refining Co., Ld.	Petroleum products.
Burma, King of	A collection of pasos.
Maung Bya, Prome	A silver bowl.
Do. Shwe Gan, Rangoon	Gold necklace, Arakanese pattern and gold klawsahgon necklace.
Do. Shwe Yon ,, ...	A piece of silver-work used by the Burmese King to place a cup of water in.
Do. Tha Yaung ,, ...	A carved teak shrine.
Rowett, R. and I. Q., Rangoon	Husked rice.

Certificate of the First Class with Silver Medal.

Maung On Gaing, Rangoon	A carved teak bowl and bracket, a gongstand on an elephant.
Do. Pa, Prome	Gilt lacquer box, inkstand, teapoy, table, and panels.
Do. Po Thet, Rangoon	Pierced and repoussé silver bowls.
Do. Shwe Yon ,, ...	Ditto ditto articles.
Do. Taung ,, ...	A carved teak steering chair.
U. Tha Sive ,, ...	Kalogar.

Certificate of the Second Class with Bronze Medal.

British Burma, Government of	A collection of fibres.
Ditto ditto	A collection of toys, costumes, musical instruments, and fishing appliances.
Ditto ditto	Extracted honey.

Forest Officer, Pegu Circle, Rangoon	...	Indian gums and resins.
Klier, P.	ditto ...	Portraits (photographs).
Ma E. Byn,	ditto ...	Gold dalizee necklace
Maung Nyaing, Moulmein	...	A set of carved ivory chessmen and other ivory carvings.
Do. Pe San	... ...	Carved teak hall table.
Do. Po Shwe Gyin	... ...	Silver niello bowl and plate, and silver niello cheroot-case.
Do. Shwe-tha Gale, Rangoon	...	Gold nawastgon necklace and gold hair-ornaments.

Certificate of the Third Class.

British Burma, Government of	... ...	Wax.
Ditto ditto	... ...	Jute fibre.
Maung Shwe Baw ...	... ...	A shrine in brick and plaster, and figures of dragons.
Rowett, R. and J. Q., Rangoon	... ...	Samples of paddy.
Valens, Rev. Bro., Director of St. Paul's High School, Rangoon.		Work by pupils.

Certificate of the Fourth Class.

Maung Eik	... ...	A screen and figures of Kanaya, masks of Belus heads.

Certificate of the Fifth Class.

British Burma, Government of	... ...	Nets and models of fishing appliances.

CALCUTTA.

Certificate of the First Class and of Gold Medal.

Ahmuty & Co.	... ...	Rum.
Angelo Brothers	... ...	Calcutta shell-lac and lac-dye.
Assam Railways and Trading Co., Ld.	...	Petroleum products.
Badham Brothers	... ...	Shirts.
Begg, Dunlop & Co.	... ...	Indo-American tobacco.
Bengal Stone Co.	... ...	Stone for building.
Bengal Telephone Co., Ld.	... ...	Telephones.
Bourne and Shepherd	... ...	Photographs, landscapes, portraits, &c.
Buddree Dass, Rai Bahadoor, Mokim and Court Jeweller.		Jewelry.
Corporation of the Town of Calcutta	...	Models and photographs explanatory of the Calcutta drainage system.
Ditto ditto	...	Models and photographs of the Calcutta water-supply.
Cossipore Sugar Co.	... ...	Indian refined sugar.
Crowder, James	... ...	Parrish's chemical food.

Cumming, Alexander	Court dress made of brocaded silk, velvet, satin, lace and flowers.
Dawson, W. D., 14-1, Sudder Street ...	Fresh-water condenser.
Deschamp & Co.	Suits of library and dining-room furniture and carved cabinet in rose and sandal wood.
Dutta Brothers & Co.	Indian sauces.
Dykes & Co.	C. and underspring landau.
Ghoosery Cotton Mills	A collection of cotton, raw, in process and yarn.
Great Eastern Hotel Co., Ld.	Indian pickles.
Ditto ditto	Bread.
Ditto ditto	Indian products, hams, and bacon.
Hamilton & Co.	Jewelry.
Harton & Co., W. H.	Hawsers, ropes, and matting made of coir and aloe fibre.
Ditto	Hawsers, ropes, and lines of Manilla and other kinds of hemp.
Kwong Yeu Sing & Co.	Bronzes, vases, incense-burners, figures, and boxes.
Lazarus & Co., C.	Billiard table and accessories.
Ditto	Furniture and upholstery.
Moore & Co.	Costumes made of Indian fabrics.
Ditto	Imported costumes.
Ditto	Millinery made of European fabrics, bonnets, and hats.
Macropolo, D.	Cigarettes and tobacco.
Newson & Co., W.	Indian curry-powder.
Ditto	Chutnies.
Ditto	Jams and jellies.
Osler, F. and C., Calcutta and Birmingham ...	Glass and crystalware.
Ditto, ditto	A collection of English and foreign porcelain.
Peliti, Federico	Jams and jellies.
Ditto	Confectionery.
Ditto	Model of the Taj at Agra in sugar.
Ditto	Chocolate and cocoa.
Preolall Dey	Indian non-alcholic lime-juice.
Phelps & Co.	Embroidered garments for Native Chiefs.
Ram Chander Ghose & Co., 28, Radha Bazar	Real Burma cigars.
Rangoon Oil Co.	Petroleum products.
Ranken & Co.	Embroidered apparel for Native Chiefs.
Smyth & Co.	West Indian Havannah cigars.
Solomons & Co.	Meteorological instruments.
Speed & Co., "The Penn," Alipur ...	Indian arrowroots.
Steuart & Co.	Minature brougham.
Tarra Prassana Roy and Ram Chandra Datta, Medical College.	Indigenous drugs.
Waldie, Dr. D.	A collection of chemicals.
Walsh, Lovett & Co., Calcutta and Birmingham.	A collection of rolled beams, &c.
Watts & Co.	Boots, shoes, and slippers.
Ditto	Gold embroidered saddle-cloth.

Certificate of the First Class with Silver Medal.

Abdulla, H. H.	Arrowroot.
Ahmuty and Co.	Coir cables and ropes.
Ditto	Wrought-iron, air-tight sanitary carts (Cardwell's patent).
Ditto	Spirits of wine.
Ditto	Cables, ropes, and lines of Manilla and other kinds of hemp.
Amrita Lal Roy	Youngman's printing-inks.
Bally Paper Mills Co., Ld.	A collection of papers of different kinds, chiefly for printing and packing.
Barr and Co., T. J.	Bar and soft soap.
Bathgate and Co.	A collection of indigenous medical products and pharmaceutical preparations.
Begg, Dunlop and Co.	Indian cigarettes.
Bengal Mills Co., Ld.	A collection of cotton, raw and in process up to fine yarn.
Bhoothnath Banerjee	Black and non-corrosive ink.
Bombay Burmah Trading Co., Ld.	A shed illustrating economy in wooden structure.
Burn and Co., Howrah	Boomer press for bailing, &c.
Ditto ditto	Oil-pressing machine.
Corporation of the Town of Calcutta ...	Models of slaughter-houses at Tangra.
Ditto ditto ...	Model of Municipal Market.
Crowder, James	Decorative pottery made by the Fine Art Pottery Company.
Ditto	"Cyclostyle" writing and copying apparatus.
Cuthbertson and Harper	Boots, shoes, and slippers.
Ditto	Gold embroidered saddle-cloth.
Cutler, Palmer and Co.	A collection of spirits.
Dass and Co., C. C., 74, Radha Bazar ...	Sola hats.
Denholm and Olpherts, Howrah	Improvements in permanent-way for railways.
Duncan Brothers and Co., 14, Clive Street ...	Safflower dye.
Dutt Brothers and Co.	Black pepper.
Ditto	Jams and jellies.
Ditto	Indian pickles.
Ditto	Chutnies.
Dutta Brothers and Co., 90, Maniektola Street	Extracted honey.
Dykes and Co.	Cob-size game-cart.
Ditto	"My Lord" phæton.
Edmond and Co., J. M.	Furniture.
Feilmann and Co., Maurice, Tangra Tannery...	A collection of leather.
Galstaun, M. J.	Mirzapur orange shell-lac.
Gobra Tannery Co.	A collection of leather.
Great Eastern Hotel Co., Ld.	Chutnies.
Ditto ditto	A collection of imported wines.
Ditto ditto	Indian curry-powder.
Ditto ditto	Indian sauces.
Hamilton and Co.	A large musical clock with automatic figure, French ormolu clocks.

Hamilton and Co.	A collection of silver plate.
Ditto	Bronzes.
Ditto	Enamels.
Harley and Co., J. H. R.	Aniline dyes and dyed goods.
Harold and Co.	Square concert piano.
India Jute Co., Ld.	A collection of jute yarns, bags, and hessicans.
Jellicoe, W. E.	Menist's perfect pebble spectacles.
Ker, Dods and Co.	White shirtings, sheetings, twills.
Ditto	Prints.
Khetter Mohun Bysack and Sons'	Mustard oil.
Ditto ditto	Oil-seeds.
Kwong Yeu Sing & Co.	Japanese jewelry.
Ditto ditto	A collection of ivory carvings, comprising vases, figures, boxes walking-sticks, card-cases, &c.
Ditto ditto	A pair of olae cloisonné vases.
Manton & Co.	A collection of revolvers, pistols, swords, &c.
Ditto	Weapons and implements of the chase of local manufacture.
Merces, G. Das	Oil mill.
Monteith & Co.	Boots, shoes, and slippers.
Ditto	A collection of harness.
Moore & Co., Belatée Bungalow	Imported silk fabrics.
Ditto ditto	Embroidered lace and embroidered Dacca muslin.
Murray, James	Telephones.
New Indian Portland Cement Co., Ld. ...	Portland cement made in India.
Newman & Co., W.	Surveying and nautical instruments.
Ditto	Drawing-instruments and scales.
Newson & Co., W.	Indian pickles.
Ditto	Do. sauces.
Osler and Co., F., Calcutta and Birmingham ...	Lamps for household use.
Peliti, Federico	Collection of liqueurs.
Planters' Store and Agency Co., Ld. ...	Photographic views of Assam.
Ditto ditto	Pilsener beer brewed at the Victoria Brewery, Bremen.
Preo Lall Dey	Silent spirit from doasta and mowha.
Rangoon Oil Co.	Tar, pitch, &c.
Ranken and Co.	Forage caps.
Ditto	Gents' dress-suit.
Ditto	Military accoutrements.
Rodda and Co., R. B.	A collection of implements of the chase.
Seebpoor Jute Manufacturing Co., Ld. ...	A collection of jute yarns, bags, and hessicans.
Singer Manufacturing Co., Ld.	Singer's improved sewing-machines.
Smith, Stanistreet and Co.	Aërated waters.
Ditto ditto	Indigenous drugs and medicines.
Ditto ditto	Lavender water.
Smyth and Co., B., New China Bazar Street ...	Manilla cigars.

Solomons and Co.	Spectacles, sunshades, &c.
Sree Kissen Dutta	Indian pickles.
Ditto	Chutnies.
Ditto	Indian curry-powder.
Stalkartt, John, Ghoosery ...	Stalkartt's ploughs.
Steuart and Co.	"Lorne" tandem cart.
Ditto	"Victoria" phaeton.
Thomson and Co., T. E.	Gold bronzed seats, illuminated hall chairs, table and hat-stand in cast iron.
Ditto ditto	Wire mattresses and reed bed.
Ditto ditto	Wilcox and Gibbs' chain-stitch sewing-machine.
Ditto ditto	A special direct acting steam-pump and vertical cross tube boiler.
Ditto ditto	Ploughs.
Ditto ditto	Locks, latches, and spring balances.
Ditto ditto	Carriage varnish.
Ditto ditto	Smith and Wellstood's patent registered stoves.
Tincowry Nundun	Hospital appliances.
Waldie, Dr. D.	Essence of capsicum and ginger.
Watson and Summers	Theatrical wigs, &c.
Watts & Co.	A set of state harness.
Ditto	A collection of harness, &c.
Wooma Churn Karmokar, 18, Narcoldanga Main Road.	Chemical and other balances.

Certificate of the Second Class with Bronze Medal.

Ahmuty and Co.	Fancy biscuits.
Ditto	Chutnies.
Ditto	Indian curry-powder.
Arlington & Co.	Electro-plated wares.
Asiatic Jute Co.	Cloth for stair carpets.
Barr & Co., T. J.	Carbolic powders.
Bathgate & Co.	Aërated water.
Ditto	Dentifrice and toilet requisites.
Bombay Burmah Trading Co., Ld. ...	Teak shingles.
Burn & Co., Howrah	Fittings and castings for launch engines.
Charriol & Co., Emile	Oil-seeds.
Cuthbertson and Harper	Harness.
Datta Brothers & Co., New Market ...	Indian curry-powder.
Deschamps and Co.	Landau.
Ditto	*Vis-a-vis* dog-cart.
Dunn and Co.	Furniture.
Dutta Brothers	Tamarind (*hilsa*) fish roes.
Ditto	Preserved citrons and tamarind.
Dykes and Co.	A circular-fronted brougham.
Ditto	A buggy on C springs.
Faizullahbhoy	Arrowroot.
Fleury, P. W.	Small electrical pankha.
Fornaro and Co., H.	Artificial stone.
Gaoripore Co., Ld.	A collection of jute bags, twilled, plain hessican cloths.

Garden Reach Cotton Mills Association ...	A collection of cotton in process and yarn.
Great Eastern Hotel Co., Ld.	Aërated water.
Ditto ditto	A collection of spirits.
Hanhart and Co., J. G., Government Place ...	A collection of Swiss watches in gold cases.
Harold and Co.	Musical boxes.
Ditto	Band instruments.
Jessop and Co.	Oilpress, mortar-mill, seed-crusher.
Ditto	Cast-iron spur and bevel wheels.
Ditto	Ornamental and brass castings.
Ditto	Belt pullies, shafting plumber blocks.
Kamarhaty Co., Ld.	A collection of jute bags, twilled, plain, and hessican cloths.
Kèr, Dods and Co.	Fancy trowserings.
Kwong Yeu Sing and Co.	Kutchow, Fookee, Choi, Heong, and old China vasés.
Ditto ditto	Red lacquer.
Lalla Tickaram and Son, Bow Bazar ...	Gold embroidered saddle.
Monro, Don and Co.	Stanhope mail phæton.
Moore and Co.	Imported millinery, bonnets and hats.
Newman and Co., W., Ld.	Artists' materials.
Ditto ditto	Specimens of printing and binding.
Ditto ditto	Engravings and lithographs for book illustrations.
Ditto ditto	Engraved and lithographed maps and charts.
Nilcomul Mitra and Son	Rum.
Peliti, Federico	Preserved fruits.
Planters' Stores and Agency Co., Ld. ...	Tea roller.
Poornoo Chunder Bose and Co., 57-1, College Street.	Mustard oil.
Preolall Dey	Improved country spirits.
Roy Brothers	Prepared spices.
Singer's Manufacturing Co., Ld.	Original Singer's sewing-machine.
Ditto ditto ditto	Kelting machine.
Solomons and Co.	Surveying and nautical instruments.
Ditto	Optical instruments, opera-glasses, telescopes, &c.
Ditto	Drawing-instruments and scales.
Ditto	Chemical and physical (philosophical) apparatus.
Steuart and Co.	A light canoe landau.
Thomson and Co., T. E.	Heating stoves.
Ditto ditto	Lawn mower.
Ditto ditto	Plantation tools.
Ditto ditto	Tapes, rules, land-chains, &c.
Ditto ditto	Entrance gates.
Ditto ditto	Joiners and carpenter's tools and Lancashire tools.
Ditto ditto	Tricycles and bicycles.
Thomson, John	A collection of inks.

Tincowry Nundun	A collection of surgical instruments and appliances.
Tomlin, J. E.	Ebonized and gold almirah, carved bracket and bedstead.
Waldie, Dr. D., Cossipore Chemical Works ...	Drugs and medicines.
Walsh, Lovett & Co., Calcutta and Birmingham	Engineer's tools, screwing tackle for gas tubes and rods, wrenches, tube-cutter, &c.
Ditto ditto	Lifting tackle, screw jacks, traversing screw jacks, &c.
Ditto ditto	Bellows.
Ditto ditto	Locks.
Ditto ditto	Smiths' hearths.
Ditto ditto	Portable forges with bellows.
Ditto ditto	Grindstone.
Ditto ditto	Spring pullies.
Ditto ditto	A collection of rolled iron.
Ditto. ditto	Wrought-iron bridge, 30 feet span.
Wooma Churn Kurmokar, Narcoldanga ...	Chemical and assay balance.

Certificate of the Third Class.

Ahmuty & Co.	Castings.
Burn & Co., Howrah	Wood pavillion for Decauville's tramway.
Ditto ditto	Boiler made in Howrah workshop.
Ditto ditto	Winches.
Calcutta Bazar	Wax.
Callarman, J.	Rubber stamps.
Charriol & Co., Emile	Husked rice.
Cook and Co.	District cart.
Dwarkanath Ghose	Mineral dyes.
Dykes & Co.	Canoe-shaped barouche.
Great Eastern Hotel Co.	Jams and jellies.
Howrah Mills Co., Ld.	A collection of jute bags, twilled, plain, and hessican cloth.
Kwong Yeu Sing & Co.	A collection of silk embroidery, comprising screens, antimacassars, banners, and state umbrellas.
Mifter & Co., V. L.	Homœopathic medicines.
Newman & Co., W., Ld.	Card-printing machine.
Nobin Chundra Dutt & Co. ...	Gum copal varnish.
Ram Chunder Dutt, 1, Mirzapore Street ...	Drugs and medicines, liquor, kurchicine.
Rodda & Co., R. B.	Fishing-tackle.
Rossomoy Ghose and Son	Extracts and drugs.
Srikissen Dutt	A collection of marmalades.
Ditto	Ditto preserves.
Sris Chandra Dutta	Drugs and medicines.
Sunderlai & Co.	Electro-plated wares.
Walsh, Lovett & Co.	Portable forges with fans.
Ditto	Ditto, with pressure blowers.
Ditto	Lathes.
Ditto	Fire-proof safes.
Ditto	A collection of implements of the chase.

Certificate of the Fourth Class.

Burn and Co., Howrah	Garden-seats and pottery.
Feilmann & Co., M., Tangra Tannery ...	Specimens of tanning and material bark (Babul myrabolans).
Great Eastern Hotel Co., Ld.	Fancy biscuits.
Munro Don & Co.	Miniature brougham.
Sarat Chandra Dutta & Co.	Homœopathic medicines.

Certificate of the Fifth Class.

Aratoon, Anna, Mrs.	Patent cough-pills.
Faizullabhoy	Medical preparations.
Gupta & Co., J.	Ditto ditto.
Ditto, B. M.	A collection of medicines.
Hari Charan Ghosh	Universal time-keeper.
Harton and Co., W. H.	Sea-fishing lines.
Nund Lall Dhole, L.M. S., Musjid Bari Street	Drugs and medicines.
Rajkristo Moitry	Medicines.

CENTRAL INDIA.

Certificate of the First Class and of Gold Medal.

Gwalior, H.H. the Maharajah Scindia of ...	A gateway carved in solid stone.
Lalla Deen Dyal, Indore	Photographic views of Central India in albums.

Certificate of the First Class with Silver Medal.

Alipura, Rao of, Bandelkhand	A collection comprising pictures, photographs, hand-writing, musical instruments, *atardan* of silver, cloths, caps, jewelled gold rings, boll-metal bracelets, anklets, toe-rings; horns of sambar, head of black buck, arms, cotton-cleaning machine, &c.
Bhopal, H.H. the Nawab Shaha Jehan Begum of.	A collection comprising a carpet, cholera and consumption medicines, lady's dress and fan, a fire-arm, a frame for embroidery, a sword, *tofai Shahjehani*, &c.
Bijawar, H.H. the Maharajah of, Bandelkhand	A collection comprising a stone jug and soapstone cups, tumblers and dishes, iron pans, gold and silver betelnut-holders and perfumery vessel, a coat, arms, walking-stick, gun and pistol whip, &c.
Charkhari, H.H. the Maharajah of ...	A collection comprising chessmen, arms, and mail, &c.

Chhatarpur, H.H. the Rajah of, Bandelkhand...	A collection comprising photographs, specimens of handwriting, teak wood desk, stone cup, drinking-vessels, cups, carpets, silver and brass dishes and cups, brass anklets, bracelets, toe-rings, armlets, earrings, toys, pipe, shoes, stag skin, country paper, arms, pump, spinning-machine, cotton-cleaning machine, &c.
Datia, H.H. the Maharajah of, Bandelkhand ...	A collection comprising plans of buildings in Datia, painting of His Highness the Maharajah of Datia, carpet, blanket, small carved wooden box, sword hilt, paper-cutter, and paper-weights inlaid with gold, printed cotton cloth, embroidered handkerchief and cap, country papers, chintz, printing-instrument, arms, lock and key, &c.
Dewas (Senior Branch), H.H. the Maharajah of.	A collection comprising a picture drawn by finger nails, sandal wood writing-box, *chauri* and fan, carpet, iron sling, cotton mill cloth, towels, silk fabrics, yarn, iron ore, headstall, paper, models of country carts, sugarcane-crusher, &c.
Dhar, H.H. the Maharajah of ...	A collection comprising an album of photographs, guitars, drugs and medicines, wooden boxes, ivory handle and paper-cutter, silver bowl, brass table fountain, khaki silk *asana* and tapes, a flag, embroidered sword-belt and dish cover, a cup, perfumery, arms, a lock and key, arrowroot, &c.
Gungadhur Bao Goray, Naib Dewan, Rewah ...	Models of conservancy cart and latrine, two wall and bracket lanterns, and a filter made of a stone bowl divided into two compartments by a slab of pliable sandstone.
Gwalior, H.H. the Maharajah Scindia of ...	A collection comprising a set of bedside carpets, stone-carvings, cotton fabrics, silk *dhutis*, arms, silver *surahis* and *katuras*, &c.
Indore, H.H. the Maharajah Holkar of ...	A collection comprising a picture drawn by finger nails, sandal wood writing-box, *chauri*, fan, carpet, iron sling, cotton mill cloth, towels, silk fabrics, yarn, iron ore, headstall, paper, models of country carts, bullock *tonga*, sugarcane-crusher, &c.

Keith, Major J. B.	Inkstand (*dawat*), *bidri* trays, cotton cloth, stone-carvings.
Oorchha, H.H. the Maharajah of, Bandelkhand.	A collection comprising stone cups, nut-cutter, drinking-vessels, spoon, brass toys, cotton turban, coat, and trowsers, panther and black buck skins, matchlock, powder flask, spear and swords, &c.
Rewah, H.H. the Maharajah of, Baghelkhand	A collection comprising photographs, carvings, and artware, a silver cup, filters, umbrellas, rings, and armlets, wheat, gram, corn, rice, muhooa seeds, &c.
Rutlam, H.H. the Rajah of	A collection comprising painting of his Highness the Maharajah of Ulwar, books, *bansis*, wooden legs for cot, metal-ware, ivory boxes, &c., toys, *hukkas* and pipes, cotton fabrics, *chudis*, and Chackani shoes, gold and silver jewelry, arms, and bridle, betel-nut, and opium, &c.

Certificate of the Second Class with Bronze Medal.

Ahmed Baksh, mistri, Etahai	A single-barrelled breech-loading gun.

Certificate of the Third Class.

Gungadhur Rao Goray, Naib Dewan, Rewah ...	Flexible stone.
Ditto ditto	Public latrine.
Ditto ditto	Conservancy rubbish-cart.
Ditto ditto	Street lantern.

CENTRAL PROVINCES.

Certificate of the First Class and of Gold Medal.

Boidnath Koshta, Barpali, Sambalpur ...	Tasar silk *saris*.
Burhanpur, Municipal Committee ...	Collection of silk and cotton fabrics, plain and embroidered, and articles of wearing apparel.
Ditto ditto	Silk fabrics.
Munshi Lal, Malguzar, Datan ...	Husked rice.
Ramcharan, Malguzar, Datan	Ditto.

Certificate of the First Class with Silver Medal.

Agriculture, Department of	Models of agricultural implements and appliances.
Clark, Private William, 2nd Battalion, Leicestershire Regiment, Jabalpur.	Model of a bridge.

Khoosal Mistri, Raipur	Native agricultural implements.
Makund Rao Balkrishna, Bati	Fine cotton and silk, silk fabrics and wearing apparel.
Rághoba Rati Ram, Saoner	Collection of the agricultural products of the Central Provinces.
Temple-Wright, Surgeon-Major R., Nagpur ...	Silver ambulance *dooly*.

Certificate of the Second Class with Bronze Medal.

Agriculture and Commerce, Director of Department of.	*Collection of oilseeds.*
Clark, Private William, 2nd Battalion, Leicestershire Regiment, Jabalpur.	Drawing and sketching instrument.
Davies, Charles Merson, Locomotive Superintendent, Nagpur and Chhatisgarh Railway, Nagpur.	Apparatus for cooling railway carriages.
Nursingpur, District Fund Committee ...	Collection of oilseeds.
Petan Gadaria Banda, Saugor district ...	White and black wool.
Snuggs, F., Naturalist, Harda	Collection of antelope, stag, tiger, barking-deer, and blue bull heads, mounted and stuffed.
Tanta Ragzi, Damoh District	A silk and grass *pardah*.

HYDERABAD.

Certificate of the First Class and of Gold Medal.

Hyderabad, his Highness the Nizam of ...	Weapons and implements of the chase.

Certificate of the First Class with Silver Medal.

Hyderabad, his Highness the Nizam of ...	Bidri-work goblet and tray.
Ditto ditto ...	A collection of cotton and silk fabrics and embroidery.
Ditto ditto ...	Baiganpulli work.

Certificate of the Third Class.

Nawab Salar Jung, Hyderabad	Carpets.

JEYPORE.

Certificate of Merit of the First Class and of Gold Medal.

Jeypore, his Highness the Maharajah of ...	Personal ornaments in zinc and brass, old Ispahan brass and steel work, gold and silver vessels and *hukkas*, old weapons and armour, musical instruments, old chintzes, brocade, &c.

Certificate of the First Class with Silver Medal.

Kasinath, jeweller, Jeypore	A collection of plain and enamelled jewelry.
School of Arts, Principal of the Jeypore ...	A collection of brass-work.
Tellery, S. J., Jeypore Gasworks ...	A collection of tars, naphtha, and pitch.

Certificate of the Second Class with Bronze Medal.

Jail, Superintendent of the Jeypore ...	Vegetable dyes.
Museum Committee, Jeypore	Wool.
Ditto ditto	Camels' hair wool.
Ditto ditto	Drawings and paintings.
Nurbax, armsmjan, ditto	Arms.
Odeyram Narayen, stone-carver, Jeypore ...	Stone and marble carvings.
School of Arts, Principal of the Jeypore ...	A collection of pottery.
Ditto ditto ...	Stone and marble-carvings.
Ditto ditto ...	A collection of lacquered ware.
Tellery, S. J., Jeypore Gasworks	Garnets and rock crystal jewelry.

Certificate of the Third Class.

Girls' School, Principal of the Jeypore ...	Embroidered work.
Museum Committee, Jeypore	A collection of nankeen and six other varieties of cotton.

Certificate of the Fourth Class.

Gangabax Chumun Lall, cloth merchant, Jeypore.	A collection of cotton fabrics and Sanganir and Bagru chintzes.

KASHMIR.

Certificate of the First Class and of Gold Medal.

Bigex E., Srinagar	Carpets.
Kashmir, H.H. the Maharajah of ...	Embroidered shawls.
Ditto ditto	Indian white wine.
Ditto ditto	Collection of papier-maché painted work.
Ditto ditto	Collection of copper, brass, and silverware, enamelled and lacquered.
Ditto ditto	Collection of Cashmir shawls and fabrics, and illustrations of their manufacture.

Certificate of the First Class with Silver Medal.

Kashmir, H.H. the Maharajah of ...	Brandy.
Ditto ditto ...	Raw silk, white and yellow waste silk.

MADRAS AND TRAVANCORE.

Certificate of the First Class and of Gold Medal.

Clark, Jas. A. R., Tek-Mallay Estate, Tenkasi, Tinnevelly, Madras.	Spices, nutmegs, cloves, and mace.
D'Angelis, G., Madras	Confectionery.
Forests, Madras, Conservator of	Indian gums and *resins*.
Gangula Chinna Viranna, Vizagapatam ...	Carvings in ivory, sandal wood, horn, and tortoise-shell.
Hutchins, Hon'ble Mr. Justice, High Court, Madras.	A four-bladed dagger and an elephant goad.
Mahomed Mahmood, Khan Bahadur, Aziz-bagh, Madras.	A brass gilt spice-box and tray, ornamented with silver filigree and enamelled glass. A gilt snuff-box, ornamented with silver filigree and enamelled glass.
Officer in charge, Madras Court	Cocoa nibs, Indian.
Orr and Sons, P., Madras	Silver plate.
Ditto ditto	Jewelry.
Ramiengar, V., C.S.I., Dewan of Travancore...	Gold and silver lace.
Reilly, L., Hillgrove Estate, Coonoor ...	Indian coffee.
Travancore, H.H. the Maharajah of, Travandrum.	Ivory-carvings from Travancore.
Ditto ditto	Gold jewelry, neck, ear, wrist, and leg-ornaments, rings, &c.
Vencattachellum & Co., P., Popham's Broadway, Madras.	Indian sauces.
Ditto ditto	Prepared spices.
Whiteside, W. S., Madras	A copper tray inlaid with silver from Tanjore. Two brass trays inlaid with silver from Tirupati.
Ditto ditto	A collection of carved furniture.
Winter, G. K., Madras	Electrical intercommunication in trains. Block instruments.
Winter and Craik	Electrical starting semaphore.
Woodhouse, A., and Mackenzie, J. W., Airlie Estate, Kotagherry.	Indian coffee.
Yendapillay Veerasalingoram, Chengulrowpett, Vizagapatam.	Carvings in ivory and sandal wood.

Certificate of the First Class with Silver Medal.

Cherry, J. W., Deputy Conservator of Forests, Salem.	A collection of fibres.
Eaton & Co., Coconada	Cayenne pepper.
Edmiston, W. L., Kotagiri, Nilgiris ...	Extracted honey.
Framjee Pestonjee, Bhamgara, Madras ...	A collection of silverware.
Harcourt, Mrs. V. W., Palamcottah, South India.	Embroidery in satin.
Henke, G., Calicut	Indian cigars.
Kodaanad Tea Estate, Nilgiris	Tea.
Lee Kirby, W., Conoor, Madras	A collection of cinchona barks, &c.
Lushington, A. W., Ganjam	A collection of fibres.

Madras, Government of	A collection of ethnological models of houses, weapons, fishing apparatus, musical instruments, and agricultural implements, toys, bead ornaments, caps and clothing.
Ditto ditto	Arni muslin from Chingliput.
Ditto ditto	Carved snuff-boxes made of fruit shells from Mandesur.
Ditto ditto	Brass and copper vessels from Calicut and Tanjore.
Massey & Co., Madras	Patent pipe plough.
Morris, R. H., Kotagiri, Nilgiris	Bee-hives.
Oakes & Co., Madras	Indian cigars.
Orr and Sons, P., Madras	Ecclesiastical brassware.
Peirce, Leslie & Co., Cochin	Samples of coir, rope, and line.
Roberts & Co., Coconada	Indian cigars and tobacco.
Robertson, W. R., Agricultural Reporter to the Government of India, Saidapet.	Native agricultural implements.
Stanes & Co., Coimbatore, Madras... ...	Mooroa fibres.
Stoney and Winter, Madras	System of signals, points, lock-up, &c.
Travancore, H.H. the Maharajah of, Trevandrum.	A collection of fancy metal work, &c.
Vencattachellum & Co., P., Popham's Broadway, Madras.	Chunties.
Ditto ditto ditto ...	Indian pickles.
Volkart Brothers, Cochin	Coir matting.

Certificate of the Second Class with Bronze Medal.

Annaswami Aiyar, K., Palamcottah ...	Grass mats from Pattamdai.
Arokian Pillay, Dindigul	Indian cheroots.
Clark, J. A. R., Tek Mallay Estate, Tenkasi, Tinnevelly.	Indian coffee.
Forests, Salem Division, Deputy Conservator of	Wax.
Forests, South Canara, Deputy Conservator of...	Do.
Framjee Pestonjee Bhamgara, Madras ...	A collection of Tanjore work in copper and silver, and in copper and brass.
Ditto ditto ditto ...	Bombay inlaid work.
Ditto ditto ditto ...	A collection of Vizagapatam carved and engraved ivory boxes.
Government, Central Museum, Madras ...	Collection of stuffed fishes.
Hooper, E. D. M., Bellary	A collection of fibres.
Madras, Government of	Embroidered table-cloths and curtains from the Hobart School for Mahomedan girls.
Ditto ditto	Apparel and haberdashery from the Hobart School for Mahomedan girls.
Ditto ditto	Grass mats from Shiyali, Chittvail and Palghat.
Ditto ditto	Brass and zinc *chemba* from Trichinopoly.
Ditto ditto	Brass *chemba* inlaid with copper and silver from North Arcot.

Madras, Government of	Embroidered canopy from Madura.
Ditto ditto	Lacquered trays from Nandyal.
Ditto ditto	Painted leather dish-mats from Nossam.
Madiah, Mrs. C. B.	Coorg embroidery.
Marrya Pillay, Trichinopoly	Indian cheroots.
Minchin Brothers & Co., Aska, Ganjam district.	Brandy, rum, &c.
Ditto ditto ditto ...	Refined and raw sugar.
Mudin Sherif, Khan Bahadur, C.M.M.C., Hony. Surgeon, Triplicane Dispensary, Madras.	Collection of paddies from Madras.
Ditto ditto	Husked rice.
Narayan Rowji, Madras	Picture in embroidery.
Nicholas & Co., Photographers, Madras ...	Views in Madras presidency.
Oakes & Co., Madras	Indian cigars.
Pagoda of the Minashi Sunderasvaral, Devastanum, Madura.	Embroidered canopy.
Panganur, Brothers of the Zemindar of ...	Ivory and sandal wood carvings and fancy dish-mats from North Arcot.
Rajah Damara Kocmara Moothoo Vencatappa Naidoo Bahadoor, Waroo of Kalahasti.	Pictured palampores.
Saminatha Pillay, Trichinopoly	Indian cheroots.
Seshavantara Jambanna	*Chulis*, mixed silk and cotton fabrics.
Shunmogan Pillay, R., Trichinopoly ...	Indian cheroots.
Soobramania Pillay, Trichinopoly	Ditto.
South Coimbatore district	Wax.
Ditto ditto	Extracted honey.
Stafford, H., Forest Officer, Godaveri district.	Collection of fibres.
Staines & Co., Coimbatore, Madras ...	Indian coffee.
Tengina Kayi Sorabhanna, Bellary ...	Silk fabrics.
Travancore, his Highness the Maharajah of ...	A carved blackwood lotus-shaped flower vase with figure of Siva in it.
Tripaty, Mahant of	Specimens of red wood carvings of Hindu deities and household utensils and animals from Tripaty.
Vencattachellum & Co., P., Popham's Broadway, Madras.	Indian curry-powder.
Ditto ditto ditto ...	Preserved tamarinds.
Ditto ditto ditto ...	Tamarind fish.
Wyatt, J. L., Trichinopoly	Trichinopoly lace.

Certificate of the Third Class.

Baker, General R. J., Madras	Indian coffee.
Central Jail, Rajamundry, Superintendent of	Carpets.
Cherry, J. W., Deputy Conservator of Forests, Salem.	Tasar and cocoons.
Ditto ditto ditto ...	Extracted honey.
Forests, South Canara, Deputy Conservator of	Extracted honey.
Shottakadt Estate, Nolimpatti	Indian coffee.
Vencattachellum & Co., P., Popham's Broadway, Madras.	Jams and jellies.

Certificate of the Fourth Class.

Madras, Government of	Women's clothes of white and scarlet silk from Ganjam.
Ditto ditto	Women's clothes of white silk from Kamptee.
Ditto ditto ...	A collection of musical instruments.

Certificate of the Fifth Class.

Havildar Devanathon, Queen's Own Sappers and Miners, Madras.	Model of the fortress of Seringapatam.

MYSORE.

Certificate of the First Class and of Gold Medal.

Mysore Exhibition Committee	An inlaid ebony door from the Bangalore palace.
Venkata Ramana Sorab Shimoga, Pandit ...	A carved sandalwood jewel-box and boxes for writing materials.

Certificate of the First Class with Silver Medal.

Ahmed Ali, Duffadar, Mysore	Ebony teapoys, walking-sticks, cabinets, &c., inlaid with ivory and brass.
Brown, C. G., Bangalore	Photographic portraits and views.
Government Gardens, Bangalore	Arrowroot.
Gudigar Puttanna, Mysore	A perforated glove-box.
Gudigar Sivappa, Mysore	A jewel-box.
Mysore Exhibition Committee	A collection of raw medicinal products indigenous to Mysore.
Ditto ditto	A collection of grains and samples of paddy.
Rungasamy Pillay, T., Engraver to the Mysore Government Press.	Studies of still life.
Sham Rao, D., Bangalore	Oil-seeds.
Suba Achary, carpenter, Mysore	Book-rack.

Certificate of the Second Class with Bronze Medal.

Appavoo Chetty and Sons, Mysore ...	Models of railway and tram carriages.
Cameron, J., Bangalore	Collection of fibres.
Mahomed Akbar Sahib, Bangalore ...	Articles made of horn and tortoise shell, consisting of trays, paper-cutters, cigar-holders, &c.
Munisami, Bangalore	A collection of silk fabrics, consisting of coloured *saris*, handkerchiefs, &c.

Mysore Exhibition Committee	Indian toys.
Ditto ditto	Wire for musical instruments from Channapatana.
Ditto ditto	A collection of spices.
Peer Sahib, Bangalore	Perforated burning-sticks.
Ram Chunder, N., Coorg	Indian coffee.
Rungasamy Pillay, T., Engraver to the Mysore Government Press.	Paintings of a Hindu lady playing on the vine, a Karabar woman, and a Maharattee girl.
School of Engineering and Natural Science, Principal of the Bangalore.	Plans and surveys by students.
Thompson, A. B., Bangalore	Arrowroot.

Certificate of the Third Class.

Binny's Coffee Works, Manager of, Bangalore.	Indian coffee.
Hosooria, Chitaldroog	Brass lock and padlock.
Maxwell Maynard, W., Quard Hilton and Siddra Bunnoo Estates, Mysore.	Indian coffee.
Mysore Exhibition Committee	Extracted honey.
Mysore Museum	Collection of vegetable oils.
Rungasamy Pillay, T., Engraver to the Government Press, Mysore.	Flags.
Ditto ditto	Etching on copper, specimens of engraving and lithography.

N.-W. P. & OUDH.

Certificate of the First Class and of Gold Medal.

Asgar Ali and Mahomed Ali, of Lucknow ...	A collection of stars, &c.
Bansi, carpenter, Saharanpur	Carved wooden doorway with doors.
Benares, H.H. Maharajah Issuri Pershad Narain Singh Bahadur, G.C.S.I., of.	A collection of arms.
Bradley & Co., Allahabad	Patent pear-shaped conservancy cart.
Carew & Co., Rosa Distillery	Spirits of wine.
Chokhe Lal and Kanhay Lal, carpenters, Bolundshahr.	Carved shisham-wood doors and a carved bracket inlaid with brass.
Duthie, J. F., Government Botanical Gardens, Saharanpur.	A collection of fibres.
Elgin Mills Co., Cawnpore	Tents of various descriptions.
Gulab Das, Lucknow	Human figures in clay from Lucknow.
Hafiz Azimullah and Hafiz Abdul Mazid, Hunnuman Fatuk, Benares.	*Kinkhabs.*
Jail, Agra, Superintendent of	Carpets.
Kunhai Lall	Caps embroidered in gold, silk, and cotton.
Mahomdabad, Raja Ameer Hossein Khan Bahadur of.	Illuminated manuscripts.

North-West Soap Co., Ld., Meerut ...	Bar and toilet soaps.
Pershadi Lall, Chowk, Lucknow	Embroidered coats, waist-coats, saddle-cover, &c.
Rampur, H.H., Nawab Mahomed Kullalee Khan Bahadur, G.C.S.I., C.I.E., of.	Embroidered *khes*.
Ditto ditto ditto ...	Husked rice.
Sheik Kareem Buksh, Azimgarh	A collection of satin.
Todd, H., Dehra Doon	Comb honey.
Ditto ditto	Extracted honey.

Certificate of the First Class with Silver Medal.

Abdulla, carpenter, Nagina, Bijnor ...	Carved ebony glove-case, bedstead legs, &c.
Aga Mahamed Hossein and Aga Golam Russul, Rampur State.	Illuminated manuscripts.
Agriculture and Commerce, Department of, North-Western Provinces and Oudh.	A collection of maize, pulses, millet, rice, barley, &c.
Ditto ditto ditto ...	Wax.
Ditto ditto ditto ...	Native agricultural implements.
Ajudia Pershad and Jaganath, Chowk, Lucknow	Silver-work cup and basin.
Amba Dutt Joshi, Seelakhola, Almorah ...	Collection of food and other grains, and of fodders.
Ditto ditto ditto ...	Husked rice.
Ditto ditto ditto ...	Extracted honey.
Baje Lal & Co., Sadwara, Farukhabad ...	A collection of cotton fabrics.
Benares, H.H. the Maharajah Issuri Pershad Narain Singh Bahadur, G.C.S.I., of.	A collection of musical instruments.
Ditto ditto ditto ...	A collection of carved ivory footstools, chairs, howdahs, and couch.
Benares, Municipal Committee	A collection of musical instruments.
Benipershad, Mirzapur...	Vegetable dyes, &c.
Bradley and Co., Allahabad	Iron road-watering cart.
Ditto ditto	Thermantidote.
Bulbhudder Dass, Chandi Chowk, Benares ...	A collection of embroidered brocades.
Ditto ditto ditto ...	Embroidered saddle cloth, velvets, &c.
Carew and Co., Rosa Distillery ...	Refined and loaf sugar.
Cawnpore Harness and Saddlery Factory, Government.	Specimens of indigenous tanning materials.
Ditto ditto ditto ...	Military saddlery and harness.
Central Prison, Superintendent of the Fatehgarh	Carpets.
Ditto ditto, Lucknow	Ditto.
Duthie, J. F., Superintendent, Government Botanical Gardens, Saharanpur.	A collection of food-products and fodders.
Ditto ditto	A collection of various kinds of cotton.
Ditto ditto	Husked rice.
East Hope Town Estate, Dehra Doon ...	Tea.
Elahi Buksh, Rampur State	Double-barrelled rifle with case and implements.
Elgin Mills Co., Ld., Cawnpore	Grey drills, &c.
Gulab, Ghazipur	Rose-water.
Gopal Chander Banerjee, Cawnpore ...	Toilet and medicated soaps.
Gopinath and Luchmenarain, Chowk, Lucknow	Embroidered saddle-cloth and velvets, &c.

Hafiz Abdul Rahim, weaver, Benares ...	A sample of muslin work from Benares.
Indur Sing, Agra	A collection of swords and daggers.
Isri, Atrauli, *Aligarh*	A carved mantel-piece.
Johnson, P. B., Allahabad	Thermantidote.
Ditto ditto	Improved army dooly.
Luchman Pershad, Cawnpore	Indian pickles.
Mahomed Ali, Lucknow	A collective exhibit of goblets, plates, &c., specimens of raised bidri-work.
Mirza Mahomed Makde Ali, Khan Bahadur, Nawab of Lucknow.	Articles of bidri and silver-work.
Monck-Mason, Capt., R.A., Agra	A collection of Indian curios, including incense-burners, *lotas*, *hukkas*, spittoons, images, brass mirror, &c.
Muir Mills Co., Ld., Cawnpore	Swiss cottage tents.
Ditto ditto	Grey drills, &c.
Ditto ditto	A collection of cotton thread in cops and hanks.
Murli, Lucknow	Caps embroidered in gold, silk, and cotton.
Nathoo Ram, Agra	Model of singing-birds in ivory cage.
Nirotam Mistree, Mainpuri	A small octagonal box.
Rivett-Carnac, J. H., Ghazipur	A collection of opium, showing materials and in preparation; also alkaloids extracted therefrom.
Sahu Kesho Saran, Moradabad	A set of chessmen and board, a box, dish, and teapot.
Sham Lall & Co., Moradabad	Two sugar-basins and an *aftaba*.
Telwaree Estate, Kumaon	Tea.

Certificate of the Second Class with Bronze Medal.

Abdulla, carpenter, Nagina, Bijnor ...	Bijnor inlaid work and carving.
Agra Municipal Committee	Gold embroidered cushion and umbrella.
Ditto ditto	Large and small carved stone screens.
Ditto ditto	A collection of laces, *kammarbands*, *shoes*, *hukkas* and pipes.
Agriculture and Commerce, Department of, North-Western Provinces and Oudh.	A collection of fibres.
Ditto ditto ...	A collection of gold embroidery.
Ditto ditto ...	Brass temple, 7½ feet high, Benares style.
Ditto ditto ...	A collection of models of agricultural implements and appliances from the North-Western Provinces.
Ditto ditto ...	Paper-weights, knife-handles, &c., made of agate, puddingstone, jasper, and onyx from Banda.
Ditto ditto ...	Husked rice.

Benares, his Highness the Maharaja Issuri Pershad Narain Singh Bahadur, G.C.S.I., of.	A collection of enamels.
Benares Municipality	Embroidered prayer-bags.
Ballan Beg, Chowk, Lucknow	A collection of raised silver work.
Bradley & Co., Allahabad	Air-tight conservancy buckets.
Ditto	Sealed clips for mail bags.
Bryant, F. B., Assistant Conservator of Forests, Ranikhet.	Indian gums and resins.
Bullock, F. S., Collector of Aligarh ...	*Darris.*
Campbell, Angus, Superintendent, Roorkee Workshops.	Surveying and nautical instruments.
Ditto ditto *ditto* ...	Heliograph and cryptography lamp.
Central Prison, Agra, Superintendent of ...	Vegetable dyes.
Ditto, Benares, Dr. E. Moir, ditto ...	Carpets.
Ditto, ditto ditto ditto ...	*Darris.*
Chuni Lall, Bazar Sudanund, Benares ...	Paintings on ivory.
Durga Mistri, Mainpuri	An oval tray of Mainpuri work.
Fry and Rahu, Naini Tal	Portraits (photographs).
Futtehpur, President, District Committee ...	Indian toys and playing-cards.
Garibram Fukeeram, Mirzapur	Orange shell-lac.
Girdharee Lall, Chowk, Lucknow	A clay model of a village in the North-Western Provinces.
Government Farm, Cawnpore, Superintendent of.	Extracted honey.
Gungaram Baspore of Alopeebagh, Allahabad...	A collection of basket-work.
Hafizulla, Bareilly	Lacquered chest on stand, small white and gold coffer on stand.
Hakim Ishtiak Ali, Agra	Illuminated manuscripts.
Har Prasad Chhipi, Jehangerabad, Bulandshahr.	*Palangposhes* and door-*pardahs*.
Ikram Ali, Lucknow	Grape-shaped preserved *petha*.
Ditto	Indian pickles.
Illahi Buksh, Mundawar, Bijnore	Lacquerware boxes and pen-cases.
Jalaun, District Committee of	A collection of personal ornaments used by women of the lower classes.
Jhansi, District Committee of	Ditto ditto.
Johnson, P. B., Allahabad	"Warwick" dog-cart.
Kabia, Collector of	Extracted honey.
Kasim Ali, Bash Mandi, Lucknow ...	Mango preserve.
Ditto, ditto ditto ...	Indian pickles.
Kennedy, J., Collector of Goruckhpur ...	Prepared sambur skin for matting embroidered with silk, leather pillow-cover embroidered with silk.
Madar Buksh, weaver of Jais, district Rai Bareilly.	Muslin embroidered with Indian characters.
Mahomed Ali Khan Bahadoor, Rajah, talukdar of Hassanpore, Sultanpore, Oudh.	A small basket.
Muir Mills, Co., Ld., Cawnpore ...	Camp furniture.
Mukhun Lall Narain Dass, Lucknow ...	Lucknow copperware.
Munshi Newal Kishore, Lucknow ...	Books printed and bound.
Nabi Buksh, Bash Mandi, Lucknow ...	Fish-shaped preserved *petha*.
Ditto ditto ditto ...	Indian pickles.

Nundoo Mull, Lucknow	A collection of Lucknow *faruds*.
Parmu, carpenter, Furakabad	A side-board as a specimen of wood-carving.
Prayag Ram	Life-size figures in clay of cultivators.
Pundit Ajudhea Pershad, Shahjehanpur ...	Husked rice.
Pundit Srikishan, Pleader, Lucknow ...	Raised silver-work *hukka* bottoms.
Rivett-Carnac, J. H., C.I.E., F.S.A., Ghazipur	Collection of Indian stone implements from the North-Western Provinces.
Sawal Dass, Chowk, Lucknow	A silver *surahi* with cover and chain.
Sirdar Jagjote Sing, Pipri, Bairaich ...	Basket-work.
Sookdyal Byjnath	Mirzapur orange shell-lac.
Sunder Lall, Shezadi, Mundu, Agra ...	Electro-plated ware.
Todd, H., Dehra Doon	Extracted honey.
Upper India Couper Paper Mill Co., Ld., Lucknow.	Collection of paper of different kinds, chiefly for printing and packing.
Wahid, weaver, Tanda	Tanda muslins.

Certificate of the Third Class.

Agriculture and Commerce, North-Western Provinces and Oudh, Department of.	Indian gums and resins.
Ditto ditto	Collection of fodders.
Arcadia Garden, Dehra Doon	Tea.
Benares, his Highness the Maharajah Issuri Persaud Narain Sing Bahadur, G.C.S.I., of.	Models of native astronomical instruments.
Bradley & Co., Allahabad	Self-closing letter-box.
Buldeo Dass, Thetheri Bazar, Benares ...	Benares brass-work.
Central Prison, Bareilly, Superintendent of ...	Ordinary bricks and tiles.
Chaudhari, Dhian Singh, *Muradabad* ...	Folding bedsteads.
Dodd, C. A., Lieut.-Col., Superintendent North-Western Provinces and Oudh Government Press, Allahabad.	Vernacular school maps.
Edu, Khyernugger, Meerut City	*Embroidered waistcoat.*
Elahie Buksh, Chowk, Lucknow	Samples of gold and silver embroidery.
Hafizulla Mistree, Moradabad	Folding bedsteads.
Irvin, H. C., Offg. Deputy Commissioner, Bahraich.	Cocoons of wild silk-worms.
Jageshwar Prasad	Views of Benares.
Kousanie Tea Co., Ld., Kumaon	Tea.
Lakhanwalla Estate, Dehra Doon	Do.
Mirza Agha Ali, Khan Bahadur, Lucknow ...	A small enamelled box.
Muni Lall, blacksmith, Bareilly	Meteorological instruments, rain-gauge, *&c.*
Naini Tal Brewery Co.	Bottled beer.
Nathu Ram, Gowalpura, Agra	An inlaid chessplate.
Rambagh Estate, Dehra Doon	Tea.
Rosa Distillery, North-Western Provinces and Oudh.	Rum.
Smith & Co., T. H., Allahabad	Dog-cart.
Sterling and Culbard Estate, Dehra Doon ...	Tea.
Sullivan, C. C., Roorkee	Excavator for cleaning wells.

Certificate of the Fourth Class.

Abdul Majid, potter, Khurja, Bolundshahr ...	Pottery.
Bhuggan Lall and Sons, Furukhabad ...	Swiss cottage tent.
Bismilla Begum, Teacher, Girls' School, Fyzabad	Lace worked in gold and cotton.
Lucknow Municipality	A small collection of *chikan*-work.
Nabi Buksh and Baddhu, Rampur State ...	Pottery.
Nilcomul Mitra and Son, Allahabad ...	Rose-wine, &c.
Noble, C. F., President District Committee, Barabanki, Oudh.	Nets and models of fishing appliances.

Certificate of the Fifth Class.

Mahomed Abbas, Lucknow	Indian tobacco.
Muneh Mull, Lucknow	A piece of embroidered muslin.
Rahimulla, carpenter, Saharanpur ...	A model of a carved doorway with upper story.
Sriram, Saharanpur	Models of Persian wheels.
Sultan Khan, Deobund	Feathers and stuffed birds.

PUNJAB.

Certificate of the First Class and of Gold Medal.

Abdulla Loan, Shawl Merchant, Ludhiana ...	Shawls and *chadars*.
Chumba, H.H. the Rajah of	Old embroidery by handmaids of the Ranee of Chumba.
Davee Sahai and Chumba Mall, Shawl Merchants, Amritsur.	Rampore shawls and *chadars*.
Ditto ditto	Plain and embroidered shawls, girdles, turbans, *rhumals*, and dressing-gowns.
Davee Sahai and Prub Dyal, Shawl Merchants, Amritsur.	Rampore shawls and *chadars*.
Holta Tea Co., Ld., Kangra Valley ...	Tea.
Jail, Superintendent of (Surgeon-Major G. C. Ross), Delhi.	Indian vegetable dyes.
Ditto ditto, Lahore ...	Carpets.
Lister and Co.	Raw silk, cocoons, and tasar silk.
Mobarik Din Mistri, Chiniot Jhung ...	Carved door and window.
Murree Brewery Co., Ld.	Pale and invalid champagne ale and stout.
Rawalpindi, Deputy Commissioner of ...	Beehives.

Certificate of the First Class with Silver Medal.

Abdul Sitar, Gurdaspur	Embroidered shawls.
Bartleet, E. R., Palumpur	Silk cocoons.
Davee Sahai and Prub Dyal, Amritsur ...	A collection of Viceregal shawls, Kashmir shawls, zemindars, girdles, table-cloths, chogas, &c.

Egerton Woollen Mills Company, Limited, Dharwal.	Coatings, trowserings, rugs, and blankets.
Ditto ditto ditto ...	A collection of woollen cloths.
Fazal Din, Bhera, Shahpore	A carved door and window from Bhera, Shahpore.
Hera Sing, potter, Delhi	Indian toys.
Jail, Superintendent of (Surgeon-Major G. C. Ross), Delhi.	Carpets.
Ditto ditto, Lahore ...	Indian vegetable dyes.
Kipling, J. L., Lahore	Two portrait busts.
Lahore Museum	A collection of coloured architectural drawings.
Lalla Barkat Ram, Lahore	Silk fabrics.
Lalla Salig Ram, Amritsur	Embroidered shawls.
Mayo School of Art, Lahore, Principal of ...	Architectural drawings.
Sadr-u-din, Kotli Loharan, Sialkot ...	Koftware, two sets of saucers and *surahis*.
Zulfikar Ali Khan, Delhi	Paintings.

Certificate of the Second Class with Bronze Medal.

Atia, weaver, Kohat	Cotton fabrics woven in colours.
Byjnauth Tea Estate, Kangra Valley ...	Tea.
Chandu Sing, Sultanpoor, Kapurthalla ...	Printed cotton fabrics.
Davee Sahai and Prub Dyal, Amritsur ...	Wool, camel's hair.
Ditto ditto	Delhi embroidery and *phulkaris*.
Davee Sahai and Chumba Mull, Amritsur ...	Ditto ditto.
Egerton Woollen Mills Co. Ld.	Woollen manufacture.
Haji Jhindu, weaver, Jullundhur ...	Cotton fabrics woven in colours.
Haji Malik Rahman, Peshawar	Silk fabrics.
Jail, Superintendent of, Amritsur	Vegetable dyes.
Do. ditto, Dehra Ismail Khan ...	Ditto.
Do. ditto, Gujrat	Ditto.
Do. ditto, Jullundhur ...	Ditto.
Do. ditto, Multan	Ditto.
Do. ditto, (Brigade-Surgeon R. S. Bateson), Umballa City.	*Darris*.
Jawahir, carpenter, Batala, Gurdaspur ...	A carved door.
Jhindu, weaver, Leiah...	Cotton fabrics woven in colours.
Kutab Din, mistry, Gujrat	Camp chairs.
Lala Gajar Mull, Amritsur	Husked rice.
Lala Manik Chand, Delhi	Gold embroidery.
Mahomed Azim, potter, Multan	Multan pottery.
Meakin & Co., Brewers, Kasauli	Champagne ale, XXX strong ale, XXX stout.
Multan, Deputy Commissioner of... ...	Extracted honey.
Nassau Tea Co., Ld., Kangra Valley ...	Tea.
Nicholl, E., Secretary, Municipal Committee, Amritsur.	A collection of models of agricultural implements, arts, &c., and head-dress of an Akali Seikh.
Nurdin Koftgar, Kotli Loharan, Sialkot ...	Koftware.
Pertab Sing, Lahore	Cotton fabrics woven in colours.
Pundit Tota Ram, Lahore	Mythological pictures.

Punjab Committee, Calcutta Exhibition, Secretary of.	Specimens of ceiling work, Amritsur.
Ram Sing, Mayo School of Arts, Lahore ...	An inlaid and painted sideboard.
Rawalpindi, Deputy Commissioner of ...	Extracted honey.
Simla District Committee	Wax.
Ditto ditto	Honey-comb.
Surajudin Kharadi, Ferozepur	A collection of Ferozepur lacquerware.

Certificate of the Third Class.

Bhawalpur, Private Secretary to his Highness the Nawab of.	Raw silk.
Bhola, potter, Delhi	A collection of Delhi pottery.
Chandu Lal, Delhi	Copperware.
Davee Sahai and Chumba Mull, Amritsur ...	*Phulkaris.*
Golam Telani, Kotli, Loharan, Sialkot ...	Koftware.
Gurdaspur, Deputy Commissioner of ...	Cocoons of wild silk-worm.
Hoshiarpur, Deputy Commissioner of ...	Raw silk.
Jagat Ram, Lahore	Dyed floss silk.
Jail, Superintendent of, Gujranwalla ...	Indian vegetable dyes.
Do. ditto, Hissar	Ditto.
Do. ditto, (Surgeon G. J. Shand, M.D.), Sialkot.	Carpets.
Kangra Valley Tea Co., Ld., Kangra ...	Tea.
Lahore, Deputy Commissioner of	Raw silk.
Ludhiana, ditto	Samples of silk.
Mayo School of Art, Lahore, Principal of ...	Architectural drawings.
Moti Ram, Delhi	Articles of gold embroidery.
Mowla Baksh, Lahore	An inlaid carved cabinet and table.

Certificate of the Fourth Class.

Gulab-u-din, Kotli Loharan, Sealkot ...	Koftware.
Jail, Superintendent of, Peshawar... ...	Vegetable dyes.
Do. ditto, Rawalpindi ...	Ditto.
Do. ditto, Sialkot	Ditto.
Kanhya Lal Bhabra, Hoshiarpur	A collection of Hoshiarpur lacquer-work.

Certificate of the Fifth Class.

Haji Malik Rahman, Honorary Magistrate, Peshawar.	Engraved *aftabas* and bowls.
Jail, Superintendent of, Jung	Indian vegetable dyes.
Kanhya Lal Bhabra, Hoshiarpur	Inlaid ivory cabinet.
Lala Ramj Das, Amritsur	Cross belts.
Mahomed Din Koftgar, Kotti Loharan, Sialkot.	Koftware.
Nur Mahomed, painter and gilder, Delhi ...	Painted bed legs.

RAJPUTANA.

Certificate of the First Class and of Gold Medal.

Jodhpur, H.H. Maharajah Jeswant Sing Bahadur, G.C.S.I., of.	A collection of arms, mail, fabrics, raw products, decorative work, &c.
Tonk, H.H. the Nawab of	A collection of arms, fabrics, raw products, &c.
Ulwar, H.H. the Maharajah of	Arms and mail.

Certificate of the First Class with Silver Medal.

Ajmir, General Committee	A collection of gold and silver jewelry, cotton manufactures and wearing apparel, woollen cloth, embroidery, ivory work, lacquerware, wood manufactures, metalware, leatherwork, &c.
Dholepur, H.H. the Maharajah of ...	A collection of arms and other objects, and a richly-carved stone screen, &c.
Kotah, H.H. the Maharao of	A collection of Indergarh work, *surahis*, cups, Etawah and Shergurh work, and Kotah muslins, &c.
Ulwar State	A collection of wheat, barley, gram, maize, millet, pulses, &c.

Certificate of the Second Class with Bronze Medal.

Bundi, H.H. the Maharao of	White and black wool.
Dholepur, H.H. the Maharajah of ...	A collection of agricultural products.
Ewan-Smith, Lieut.-Col., C.B., Political Agent, Bhurtpoor and Kerowlee.	Camels' hair wool.
Jail, Superintendent of, Ajmir	Carpets.
Jhallawar Durbar	White and black wool.
Kotah, H.H. the Maharao of	Collection of food-products.
Peacock, Colonel H. P., Ulwar	White and black wool.
Shahpur, the Rajah of	Ditto ditto.
Tonk, H.H. the Nawab of	Ditto ditto.
Whiteway, R. S., Ajmir	Ditto ditto.

Certificate of the Third Class.

Mahomed Ibrahim, Ulwar	A silver-mounted steel sword in scabbard, covered with green velvet, and an ivory hilt.

Certificate of the Fourth Class.

Kasi Abdul Rahman, Ulwar	An album, a specimen of Ulwar bookbinding.

TANJORE.

Certificate of the First Class and of Gold Medal.

Tanjore, H.H. the Princess of	... ...	A collection of gold articles of jewelry, &c.

Certificate of the First Class with Silver Medal.

Sadasiva Devai, Tanjore	... ...	Copper *chemba*, trays, *lotas*, flower vases, &c., inlaid with silver.
Tanjore, H. H. the Princess of	... ...	Clothing embroidered with gold, pearls, and beetle wings; also hat embroidered with gold and set with diamonds and precious stones.

Certificate of the Second Class with Bronze Medal.

Tanjore, H.H. the Princess of	... ...	A collection of agricultural products of Tanjore.

Certificate of the Third Class.

Sadasiva Devai, Tanjore	... ...	Brass *chemba* and tray inlaid with copper.

APPENDIX.

Appendix.

PROVISIONAL REGULATIONS FOR EXHIBITORS.

1. The introduction of dangerous substances is strictly prohibited.

2. Packages intended for the Exhibition must bear the printed official labels, which will be furnished to the exhibitors, and must be consigned as directed.

3. No sketch, copy, or reproduction of any exhibit may be taken without the special permission of the exhibitor and the Committee. The right of permitting general views is, however, reserved by the Committee.

4. An official catalogue will be published.

5. Every facility will be afforded to exhibitors and their agents in connection with the transport, display, sale, and care of their exhibits.

6. The utmost precautions will be taken to preserve exhibits from injury and to guard the buildings. No responsibility can be undertaken for damage or loss. Exhibitors should make their own arrangements for effecting insurances.

7. The arrangements with reference to machinery in motion will form the subject of special regulations.

8. Subject to official confirmation, agents can be appointed by exhibitors.

9. Exhibitors must defray all charges for space, packing, forwarding, receiving, unpacking, and repacking of goods, and all other incidental charges.

10. All arrangements for the display of exhibits, including special constructions, stands, cases, tables, shelves, and the mounting of machinery and apparatus, must be carried out by the exhibitors at their own cost and in accordance with plans officially approved.

11. Articles remaining unsold at the close of the Exhibition must be removed within 30 days; after that time they will be removed and stored at the risk and expense of the owner.

12. Exhibitors must conform to all rules and regulations.

13. Applications for space, with full particulars of the intended exhibit, must be made at the office of the Secretary or official agent before the 1st of August 1883. Necessary forms and all information may be obtained of the Secretary or any of the official agents.

14. The ordinary charge for space will be two shillings for each of the first twenty square feet, and one shilling for every additional square foot; but exhibitors desiring a frontage to any main avenue for their cases can obtain it on payment of an additional five shillings per foot of such frontage, irrespective of depth. A passage of from two to three feet will be left round each case where desired, and exhibitors

desirous of having spaces against the wall should mention the fact at the time of application. All applications must be accompanied by payment of the full amount for the space required.

15. The general reception of articles in the Exhibition buildings will commence on or before the 1st of October, and cease one week before the opening, after which date no exhibits can be received and all vacant spaces become forfeited.

16. Certificates of gold, silver, or bronze medals will be awarded to exhibitors: a special jury will be appointed for this purpose.

17. The Exhibition will be constituted a bonded warehouse, where dutiable exhibits can remain without payment of duty until they are sold. Calcutta is a free port, except as regard spirits, wines and liquors, cider and other fermented liquors, ale, beer and porter, salt, opium, arms and ammunition.

18. Articles may be sold during the currency of the Exhibition, but cannot be removed without the special permission of the Committee.

19. An entrance card (not transferable) will be delivered gratis to every exhibitor.

20. It is intended to keep the Exhibition open daily from 7 a.m. to 6 p.m. and from 8 p.m to 11 p.m. from on or about the 4th of December 1883 until its close, on or about 1st of March following.

ADDITIONAL REGULATIONS.

I.—ATTENDANTS' PASSES.

1. All exhibitors or representatives shall submit to the Secretary a list of attendants required by them during the currency of the Exhibition, so that their names may be entered in the Attendants' Pass Book and cards of admission issued to them.

2. Attendants will have to attend at the Ticket Office every Saturday between the hours of 8 a.m. to 10 a.m. for the purpose of receiving their passes, without which they cannot enter the grounds or buildings. Any person failing to do this, between the hours above mentioned, will have to bear the expense of the entrance fee until the following Saturday.

3. All attendants will have to obey any orders given to them by the Foreman or Staff Officials relating to the sweeping, dusting, and cleaning of their courts, or any other matters appertaining to the proper and regular maintenance of order in the building.

II.—RECEPTION OF EXHIBITS.

1. The reception of exhibits will begin on Monday the 1st October 1883, and cease on the 27th November 1883. The hours of reception will be from 6 a.m. to 4 p.m. Every facility will be given to exhibitors for the unloading of exhibits and getting them into their proper places, but the labour must be undertaken by the exhibitors themselves.

2. The trucks will have to be unloaded at once, and the goods placed in the bays, so as to allow of no delay or block of the main avenues.

3. All refuse will have to be swept out of the various bays in a heap in the avenues the last thing before the Exhibition closes, or not

later than 6-30 a.m. the next morning, so as to facilitate the general cleaning of the buildings before the beginning of the day's work.

III.—WORKMEN'S PASSES.

1. These passess will be issued at the Ticket Office, either for the week or the day, which will admit the bearer twice each day, on an application being made to the Secretary stating the number and requirements of the men.

2. If these tickets should be found to be made use of for other purposes than those stated in the above rule, the tickets will be cancelled and no further ones issued to the same workman upon any account whatever.

IV.—SALES AND DELIVERY.

1. All exhibits sold and delivered during the currency of the Exhibition must be duplicates or made in the Exhibition and shown by manufacturers. Notice of intention to apply for a license to sell must be given at the time of entry, and the Executive reserve to themselves the right to refuse or discontinue any license.

2. The rental charge per week is 30 rupees, payable in advance, payment being made at the Secretary's Office every week on Saturday between the hours of 9 a.m. and 11 a.m. Any stall-holder failing to do so will lose his right of selling, and his attendants' passes will be immediately stopped.

V.—LIGHTING.

1. The general lighting of the building is undertaken by the Executive, but exhibitors who wish for special lights round their cases must apply through the office to the Manager of the Oriental Gas Company for all such additions, which in all cases will be at their own cost. In all such cases, the use of the main will be granted free, and the charge for gas will be made at the rate of so much per hour per burner. All cost of the fittings in such cases must be borne by exhibitors.

2. A gas-collector will attend every Saturday to collect the amount due; and to facilitate matters, it is desired that all exhibitors if not personally present, should leave with their attendants the amount due. Any person not paying the claim will forfeit the use of the main.

VI.—POWER.

Motive power will be supplied free of charge to all exhibitors who give notice at the time of making their entry, but the cost of the loan of the shafting and couplings will be charged to exhibitors according to the amount they use.

Exhibitors or their representatives must call at the Secretary's Office and report their requirements both as regards shafting and horse-power immediately on arrival.

VII.—CARRIAGE.

Conveyance of goods for exhibition.—A satisfactory arrangement has been made with the Port Commissioners and Tramway Company for the conveyance of all cases, packages, and goods from the ships' side to the Exhibition ground, and also for the removal, storing, and returning empty cases on the close of the Exhibition.

ADDITIONAL REGULATIONS.

1. The opening ceremony will take place on Tuesday, the 4th December.

Special tickets for this ceremony may be purchased at the Ticket Office up to Saturday, the 1st December, at the following rates:—

Reserved and numbered seats for non-holders of season tickets, Rs. 10. Any other part of the building, Rs. 5.

Holders of season tickets will have reserved seats assigned to them without extra charge on applying at the Ticket Office before the 1st December. All ticket-holders for the opening ceremony must be in their seats by 3-30 p.m., at which time the doors will be closed. After the ceremony the Exhibition will remain open till 8 p.m.

2. On and after the 5th December, and until further notice, the Exhibition will be opened daily, except Sundays, from 10-30 a.m. to 7-30 p.m., and from 8-10 p.m. to 11 p.m. The prices of admission will be as follows:—

Wednesday morning	...	1 rupee.
Ditto evening	...	1 „
Other days, morning	...	4 annas.
Ditto (in the evening)	...	8 „

Children under twelve, half price.

Special arrangements will be made for the exclusive admission of native ladies on certain days.

3. The prices of season tickets will be as follows:—

Single ticket for gentleman	...	25 rupees.
Ditto for lady ...	...	15 „

Any gentleman purchasing single tickets for himself and a lady of his family will be allowed to purchase additional tickets for other *bonâ fide* members of his family at 10 rupees each. Season tickets for children under 12 years of age will be issued at reduced rates.

These tickets will admit the holders to the Exhibition one hour before the Exhibition opens to the public, and at all hours when it is so open, including the opening and other official ceremonials, with the exception of days which may be set apart for the exclusive admission of ladies. They will be non-transferable, and must be presented at the gate each time the holder enters, if required.

4. Exhibitors' ticket, admitting the bearer to the premises two hours before the Exhibition is open to the public, and at all other times at which it is to open, will be issued, on application, to all exhibitors the value of whose exhibits exceeds Rs. 1,000. Other exhibitors can obtain similar tickets on payment of Rs. 12. Disputes as to the value of articles exhibited shall be decided, in the case of foreign exhibitors, by the agent or representative of the country to which the exhibitor belongs, and, in case of native exhibitors, by the Executive Committee. The tickets will not be transferable, and must be presented at the appointed entrance each time the holder enters. One only of two or more partners in a firm of exhibitors will receive an exhibitors' ticket.

Exhibitors of ladies'-work and pictures will not be entitled to exhibitors' tickets. Applications for exhibitors' tickets must be made not later than the 30th November, after which date no applications will be received.

LADIES' COURT.

With the sanction of the Executive Committee, a space has been granted in the Calcutta International Exhibition for the display and (when required) sale of ladies' fancy work of all kinds.

The management of this section will be vested in the hands of a committee of ladies resident in Calcutta, who have kindly undertaken the task.

Every article intended for exhibition should be fully described in writing, and a list of such articles, as well as the exhibits themselves, should be forwarded to the Honorary Secretary, No. 4 Chowringhee, on or before the 20th of November next, after which date nothing will be received.

It is hoped that native ladies will join in and contribute to this movement.

JURY REGULATIONS.

1. No exhibit will be allowed to compete for awards which is not entered in the official catalogue, and which is not placed in the Exhibition building on or before the 27th November 1883, unless the exhibitor is able to prove to the satisfaction of the Executive Committee that the omission to enter it in the catalogue, or the delay in its arrival, has been due to causes arising subsequently to its despatch from its place of origin, and entirely beyond his own control. Perishable articles are alone exempted from this rule.

2. The classification of articles for competition shall be decided by the Executive Committee, and, after publication in the official catalogue, shall be final.

3. A separate jury, consisting of not less than three members, shall be appointed for each class.

4. One-third of the jurors in each class shall be elected by the foreign exhibitors, and one-third by the Indian exhibitors; the remainder shall be nominated by the Executive Committee.

No person shall be eligible for appointment as a juror in any class in which he exhibits or is in any way connected with an exhibitor as agent or otherwise unless he or the exhibitor with whom he is connected withdraw from competition.

5. Exhibitors will be invited to appear either personally or by representative in the jury room on dates to be notified for the purpose of electing jurors. The names of exhibitors will be read out by the Secretary to the Executive Committee, and each exhibitor or his authorised representative will be at liberty to nominate a juror on his name being called.

Where there is a majority of nominations in favour of one person, he shall be considered duly elected. When an equal number of nominations have been given to two or more persons, the Committee shall appoint the one they deem best qualified. Where no nominations are received, the Committee shall themselves make all appointments.

6. In the event of the continued non-attendance of any juror, the Executive Committee shall, on the requisition of any one of the remaining jurors, or of not less than five exhibitors in the class being judged, appoint a substitute.

7. Objections to jurors in any class shall not be received unless lodged by any exhibitor in that class with the Committee within 48 hours of the publication of the list of jurors.

If the Committee consider the objection valid, they may cancel the election or appointment, and shall themselves appoint a person to fill the vacancy thus caused. Objections must be in writing, and be addressed to the Secretary to the Executive Committee, bearing on the envelope the words "Objection to Juror."

8. Each juror shall receive a pass that will admit him to the Exhibition buildings, and a badge to be worn while he is adjudicating.

9. Notice of the times of meeting of the several juries will be given in the official programme at least one day in advance. Exhibitors are invited to attend the meetings of the juries in their own classes. If they omit to do so, they must bear the consequence of any want of explanation to the jurors regarding any article. The decision of the jury shall in all cases be final, unless an application for review of the award, on the ground that the exhibit has been overlooked, be lodged, accompanied by a fee of Rs. 30, within twenty-four hours of the publication of the award with the Superintendent of Juries.

10. The jurors in each class shall choose their own Chairman, who shall convene meetings, preside over debates, and enter the propositions and resolutions of the jury, together with the reasons for the same in the minute-book. He shall have a deliberative as well as a casting vote, and shall also certify, under his signature, the award of the jury.

11. Juries shall have the power to invite the co-operation of jurors from other classes, and to call in the aid of experts.

12. The names of all persons called in to act as experts shall be recorded in the minutes of meetings of each jury, and such minutes shall be submitted by the Chairman to the Executive Committee.

13. Juries may, if they consider it necessary, subdivide classes into special divisions, and make awards in each of the subdivisions thus created. It shall be in the power of the Executive Committee to make special subdivisions in classes with reference to Oriental exhibits, awards being made in such subdivisions.

14. Collective exhibits shall, as a rule, be judged in their entirety as one. Should, however, an exhibitor so desire, and supply the jury with due notice and the necessary information, his exhibit shall be divided, and parts judged separately; but no exhibit to any part or parts of which an award of merit may be given shall be eligible for a reward as a collective exhibit.

15. Each jury shall submit to the Committee a signed report embodying the results of their examination of exhibits, and stating the specific reasons for which each award shall have been made.

16. Reports and awards shall be based upon inherent and comparative merit, the elements of merit being held to include considerations relating to originality, invention, discovery, utility, quality, skill, workmanship, fitness for the purposes intended, adaptation to public wants, economy, and cost. A schedule form shall be supplied to each exhibitor, in which he shall be at liberty to state the merits which he claims for the articles exhibited by him.

17. The reports of jurors shall name the exhibitors who deserve recognition, and shall recommend whether the award made to them shall be of the first, second, third, fourth, or fifth class, leaving it to the Executive Committee to decide the nature of the highest award in each class. Jurors shall limit themselves to placing exhibits in classes, and shall not decide as to the comparative merits of articles in any class.

18. Certificates of merit in accordance with the awards made by juries will be furnished to exhibitors by the Executive Committee. A silver medal will be given to all holders of first-class certificates, and a bronze medal to all holders of second-class certificates. In the case of exhibits of special merit the Executive Committee shall be at liberty, on the recommendation of any jury, to award certificates of gold medals, which shall entitle the holder to receive a gold medal on payment of its value on an order signed by the President.

CUSTOM HOUSE ARRANGEMENTS.

Rules under Section 9 of Act VII of 1878.

1. All entries of goods for the Exhibition must be passed at the Custom House in accordance with the arrangements made by the Collector of Customs.

2. In respect of dutiable goods, the Exhibition building is appointed a public warehouse under the provisions of section 15 of Act VIII of 1878, of which Mr. Jules Joubert shall be deemed to be the keeper for the purposes of section 96 of that Act.

3. Packages containing dutiable goods, upon which duty has not been paid, must be entered for bond and appraised and taken in charge of an officer to the Exhibition building, in the usual manner. Pending appraisement and removal to the Exhibition building, all such packages will be allowed to remain rent-free in a portion of the Custom House premises set apart for the purpose.

4. At the close of the Exhibition, exhibitors will have to account to the Custom House authorities for all dutiable goods admitted into the Exhibition in accordance with the bond bill of entry. Goods intended for delivery in Calcutta on sale or otherwise will on payment of duty be cleared from bond, and goods intended for re-exportation will be reshipped from bond in the usual manner.

5. The charges mentioned in the schedule attached to these rules are remitted in respect of goods intended for the Exhibition.

6. No duty will be payable for wines, spirits, or other liquors consumed in the Exhibition for tasting or judging purposes, and a certificate of the amount thus consumed must be obtained from the Secretary to the Executive Committee of the Exhibition and presented by exhibitors to the Custom House officer when accounting for the dutiable goods admitted into the Exhibition. Without such certificate duty will be assessed on all dutiable goods shown by the bills of entry as having been admitted into the Exhibition and which are not forthcoming at its close.

7. The Custom House officers will not have custody of, or be in any way responsible for, goods in the Exhibition building, the custody of which as a public warehouse will rest with Mr. Jules Joubert.

8. These rules apply only to goods intended *bonâ fide* for exhibition.

SCHEDULE.

		Rs.	A.	P.
	Entry.			
1.	Wharf rent for any time over four days during which they lie at the Custom House			
2.	Form of bond	1	0	0
3.	Two warehousing chalans	0	1	0
4.	Peon's fee	0	4	0
5.	Officer's fee	4	0	0
	Clearance.			
6.	Two clearance chalans	0	1	0
7.	Officer's fees	4	0	0
8.	Re-gauging fee (if in cask)	1	0	0
	Reshipment.			
9.	Preventive Officer's fee	4	0	0

GENERAL INSTRUCTIONS FOR GUIDANCE OF LOCAL COMMITTEES IN BENGAL.

1. Local Committees need only give their attention to the collection of exhibits of local artware, jewelry, fabrics, furniture, and other finished manufactures and articles of use, adornment, or luxury. The collection of samples of raw products and rough manufactures therefrom, as well as of agricultural machines and implements, has been undertaken by the Revenue and Agricultural Department of the Government of India. It is difficult to define the precise difference between rough manufactures and finished manufactures or fabrics, and Local Committees should rely on their own judgment. In case of doubt, reference should be made to the Secretary, Executive Committee at Calcutta.

2. The printed catalogue of the Calcutta Exhibition of 1882, which has lately been circulated to all district officers, may be referred to with advantage, as showing in a general way the sort of things procurable for exhibition in each district in Bengal. Many of the articles sent to the Calcutta Exhibition of 1882 are now in the Economic

Museum, and will, if necessary, be used again for the Exhibition of 1883-84. It is not advisable, therefore, that Local Committees should procure an exactly similar collection to that of 1882, but the collection may be generally of the same sort, the specimens being, if possible, better and more varied, and representative of the productions of the district.

3. Lists of proposed exhibits with estimates of cost should be prepared as soon as practicable by District Committees and forwarded to the Local Committees at the head-quarters of the division. When these have been received from all districts, the Local Committee should check and compare them with each other, and strike out unnecessary duplicates, suggest omissions which should be supplied, and so on. When thus revised, the lists should be sent by the Local Committee to the Secretary to the Executive Committee at Calcutta, where they will be checked again and compared with the stock of articles already available in the Economic Museum. The object of this check and comparison is to avoid waste of money in the purchase of duplicates. When the lists and estimates have been thus examined, the necessary funds will be supplied, and the purchases can be effected. Local Committees will exercise their discretion as to ordering at once such articles as require time for manufacture.

4. The purchased exhibits will be the property of the Government of Bengal, and will eventually, after the close of the Exhibition, form part of a permanent collection to be kept on view in an annexe of the Imperial Museum at Calcutta. Besides these purchased exhibits, however, it is believed that a valuable and interesting collection of loan exhibits may be made by the Local and District Committees; and it may happen also that some local native manufacturers, dealers, or workmen may wish to exhibit on their own account in the same way that European manufacturers do. These last, if they are substantial persons or firms, should be furnished with printed forms of application for space, and be instructed to apply direct to the Secretary to the Executive Committee. But if they are merely local workpeople in a small way of business, they should be dealt with by Committees according to the rules in the vernacular letter below mentioned. As regards loan exhibits, the Local and District Committee should undertake to afford all facilities to persons who offer them. A printed form of vernacular letter in Bengali and Urdu will be furnished to all Committees to be distributed freely at their discretion. The letter may be further translated into any other local language as may be deemed advisable by the Committees. The English translation of it will show the object of the letter and the rules to be observed by Committees in dealing generally with exhibits.

5. A supply of printed labels, both for loan and other exhibits, will be furnished to all Committees, and also of printed forms of register sheets in which to enter the lists of exhibits. Labels printed on white paper in red ink are intended for loan exhibits. Those printed on white paper in black ink are for ordinary exhibits meant for sale, and those printed in black ink on red paper are meant for purchased exhibits, which are to become the property of Government and remain in the Museum. To avoid confusion, the labels will be numbered

consecutively in one single series, and no two labels will have the same number. In entering the articles in the register sheets, the number of the label should be entered, as well as the name of the article and other particulars noted on the label.

6. All articles intended for the Exhibition should be sent to the Secretary, Executive Committee, so as to reach him not later than 1st October 1883. Printed address labels for the packages will be supplied.

VERNACULAR NOTICE TO BE CIRCULATED BY LOCAL COMMITTEES IN BENGAL.*

TRANSLATION.

Exhibition of all things worthy to be shown from all countries in the world to be held in Calcutta, under the patronage of his Excellency the Viceroy and Governor-General of India and his Honor the Lieutenant-Governor of Bengal.

An Exhibition of all things, both common and uncommon, ornamental and useful, from all countries, far or near, is to be held in Calcutta from the commencement of the month of December 1883 till the 1st of March 1884.

People from all countries will then come to Calcutta to see the things shown in that Exhibition. Other and far distant countries will show all that they possess of the richest and best; and all men will compare things sent from one country with those sent from others. Natives of India, for love of their country, and for its greater power and glory, will, with all their power, show and recommend to other nations those things for which the East is famous. In this way workmen and artisans will see the skilfulness and treasures of different nations, and those things which are most useful or most worthy they will be able to examine. Good to India will accrue not only in this way, but when foreign nations see the skill and cleverness of Eastern nations, they will be desirous of obtaining the manufactures of India and the East, and thus great commerce and welfare may be brought to the Indian people at large.

Articles, both useful and ornamental, which are manufactured by natives of the East at the present time, will be shown at this Exhibition. There are skilled workmen in India, who at the present time make silk, cloths, embroidery, ear-rings, jewelry—both gold and silver—, statues, carpets, screens, mattings, vessels of gold, silver, brass, iron, and earthenware, and many other articles which have not been here mentioned. All things made at the present time, both useful or ornamental, common or uncommon, will be exhibited, so that the prosperity and skill of India may be seen and her trade be increased. All these things, as shown in the rules below, may be sold during the Exhibition; but nothing need be sold unless the owner wishes.

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* This is the vernacular letter referred to in paragraph 4 of the general instructions for guidance of Local Committees in Bengal.

In addition to things which are made at the present time, there are many rare and curious articles which are no longer made. In the possession of well-born natives and villagers also are many old and curious articles, such as rare old silk, gold and silver plate engraved or enamelled or set with golden flowers; *hukkas* of choice patterns; musical instruments, for which the natives of the East are so famous; pictures and paintings; stone vessels, flowered or studded; armour engraved with gold or rare devices; jewelry and other old and curious work which have been handed down from father to son from old times, and which the owners do not wish to part with or sell. Some of these things used to be formerly commonly manufactured and used, but now the art is forgotten, and no longer can they be made, or else, although the art is not forgotten, they are not made because they are not sold now so much as they used to be. If foreigners can see these things they may admire them, and perhaps the old manufacture will spring up again and flourish.

Such things will, if the owners are willing, be borrowed, for the Exhibition and taken the greatest care of. They will not be sold, nor will they be given to any one, but will remain under the care of the Executive Committee appointed by the Government of Bengal until the Exhibition is closed, and they can be returned to their owners. Things exhibited in this way will be placed in the loan collection, and will be separate from the rest of the Exhibition. They will show the glory and richness of the East in past and present times, and the pride of country of the natives will be seen in the excellence and splendour of these loan exhibits.

The following are the rules which have been made, and will throughout be adhered to for the safety and collection both of the loan and other exhibits.

RULES.

1. The Exhibition will be held in Calcutta from the 4th of December 1883 to the 1st of March 1884.

2. All exhibits will be under the care of the Executive Committee appointed by Government, who hereby give assurance that no exhibit shall be given away, kept, or transferred.

3. The Executive and Local Committees have the right of rejecting any article not considered suitable for the Exhibition.

4. Every article sent to the Exhibition must have a ticket on it in the form sent by the Executive Committee, to show the name and address of the owner, and whether the article is for sale or on loan. Red tickets will be supplied for loan articles, and black tickets for articles for sale. Without a ticket no article will be received.

5. No loan exhibit will be kept, sold, or transferred, but will, at the close of the Exhibition, be returned in safety and without expense to the exhibitor.

6. Articles which are intended for sale may be sold during the Exhibition, but may not be taken away by purchasers without special leave from the Executive Committee.

7. The price of articles which are intended for sale must be fixed by the maker and Local Committee; that price must be sufficient to

cover the expenses of manufacture, carriage, space, &c. called the "exhibition price." If sold, the cost of carriage will be deducted from the selling price, and the balance to maker or exhibitor.

8. If unsold the Executive Committee will return the though the Local Committee to the owner, or sell them by auct otherwise to the best advantage if the owner desires it.

9. Large native firms and others of good position will be sub to the provisional regulations as laid down in the Prospectus, copies of which, together with forms of application for space, can be obtained from the Local Committee. But in the case of poor village workmen the Executive Committee will at their discretion return unsold articles free of expense.

10. Applications must be made to the Local Committees before the 1st of June 1883, or such date as the Local Committee may fix. Special intimation must be given by intending exhibitors in the loan collection.

11. Medals and certificates of merit will be awarded to exhibitors by a special jury.

VERNACULAR NOTICE.*

TRANSLATION.

It is hereby brought to the notice of the general public that an Exhibition of all things worthy to be shown from all the countries of the world will be held in Calcutta on the Maidan from the 4th of December 1883 till the 1st of March 1884. For many months buildings have been under construction, by order of his Honor the Lieutenant-Governor of Bengal, on the south side of the Museum and on the Maidan for the purpose of containing all the things that will be sent. In the Exhibition buildings will be shown machinery of all kinds, and the manufactures and inventions of England and all other foreign countries, and there will be specimens there of all the richest and best things made in Bengal and the other provinces of the empire, which have been collected from all parts by officers specially appointed by the Government. People will come in great numbers from all parts of the world to see the glory and greatness of India, and the people of India will be able to see the numberless beautiful productions of the East and West. Thus new manufactures of foreign things will be introduced into India, and increased trade and cheapness of articles will follow.

Besides all these things, there will be exposed to the view of whoever wishes to see the best and richest jewels of the Maharajas, Rajas, Nawabs, Thakurs, Zemindars, Bankers, and other rich men. For these, of which the value will be many lakhs of rupees, a special building has been made, in which they can be kept safe and well shown.

These things will be always visible, and there will also be at fixed hours of the afternoon and evening varied and beautiful *tamashas* to suit all kinds of people. Among these will be music of many kinds, and other entertainments of a polytechnic character, which will be changed from time to time.

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* This notice was issued as an advertisement of the Exhibition shortly before its opening.

In order that every person, whether rich or poor, may be able to visit the Exhibition as often as he may wish; the price of admission has been made for all hours of every day, except Sunday and Wednesday, from 10 a.m. to 7-30 p.m. four annas. In the evening the price will be eight annas. On Wednesday, in order that those persons who wish to see the Exhibition may do so with special ease and comfort, the charge will be one rupee.

It is also desired that the ladies of India may see the Exhibition privately, and in a manner which will not injure their caste, and for this reason special days will hereafter be set apart, on which ladies only will be admitted and all men will be excluded.

This is the first opportunity which has ever occurred for the people of India to see all these wonderful and beautiful things, and it is not likely that such a chance will occur again during the lifetime of men now living. It is therefore the wish of the Government, which has taken so much pains, and spent so much money on collecting them, that all persons, high and low, great and small, rich and poor, should come to see the Exhibition, and it is for this reason that the prices of entrance have been fixed so low. Every one should come.

W. H. D'C.—Reg. No. 2616J—2,012—4-8-85.

VOLUME I.

PART II.

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CLASSIFICATION OF EXHIBITS.

SECTION A.—FINE ARTS.

1. Paintings and drawings.
2. Sculptures.
3. Architectural drawings and models.
4. Engravings, lithographs, &c.
5. Photographs.
6. Works of art not specified.

SECTION B.—EDUCATION AND APPLICATION OF LIBERAL ARTS.

7. Educational appliances, models of schools, school furniture and books.
8. Maps, charts, and geographical apparatus.
9. Specimens of work done by pupils in schools.
10. Gymnasia.
11. Stationery and artists' materials.
12. Printing and book-binding.
13. Photographic apparatus, chemicals, and other appliances.
14. Musical instruments.
15. Scientific instruments.

SECTION C.—HEALTH.

16. Systems of drainage.
17. Appliances connected with sanitation and hygiene.
18. Drugs and medicines.
19. Surgical instruments.
20. Hospital appliances.
21. Ambulances.
22. Other objects connected with health.

SECTION D.—FURNITURE AND OTHER OBJECTS FOR THE USE OR DECORATION OF DWELLING-HOUSES AND OTHER BUILDINGS.

23. Furniture and upholstery.
24. Glassware of all kinds.
25. Stone utensils, pottery, porcelain, and earthenware.
26. Metalware, hardware, and cutlery.
27. Clocks, watches, and their accessories.
28. Brushware.
29. Basketware.
30. Apparatus and processes for cooling, heating, and lighting.
31. Decorative work, including carving and artware.
32. Carpets, hangings, tapestry, furniture-stuffs, matting, paper-hangings.
33. Marble and alabaster.
34. Bronzes, ornamental work in gold, silver, and other metals.
35. Toys.
36. Other household utensils and appliances.
37. Camp equipment, including tents.

SECTION E.—FABRICS, INCLUDING APPAREL, TOILET REQUISITES, AND OTHER OBJECTS OF PERSONAL WEAR OR USE.

38. Cotton fabrics.
39. Wool fabrics.
40. Silk fabrics.
41. Jute fabrics.
42. Other fabrics.
43. Mixed fabrics.
44. Shawls.
45. Fancy work.
46. Apparel and haberdashery.
47. Boots, shoes, and slippers.
48. Hats and caps.
49. Umbrellas and parasols.
50. Jewelry and precious stones.
51. Perfumery.
52. Objects not specified.

SECTION F.—RAW PRODUCTS AND MANUFACTURES FROM PRODUCTS NOT INCLUDED IN OTHER SECTIONS.

53. Minerals and metallurgic products.
54. Indigenous timber and other forest products.
55. Oil-seeds.
56. Oils.
57. Soap, tallow, wax, and other manufactures of oleaginous substances.
58. Hides, horns, hair, bristles, &c.
59. Leather and manufactures of leather.
60. Cotton, raw and thread.
61. Cotton manufactures.
62. Silk, raw, cocoon and thread.
63. Wool, raw and yarns.
64. Jute, raw and yarns.
65. Manufactures of jute.
66. Coir and manufactures therefrom.
67. Other fibres and manufactures therefrom.
68. Paper.
69. Ivory, tortoise-shell, sponge, and shells.
70. Materials for baskets, wicker and plait work.
71. Cement.
72. Building materials, exclusive of cement.
73. Lac.
74. Gums and resins.
75. Indigo.
76. Other dyeing and colouring materials.
77. Colours, paint, varnishes.
78. Tobacco.
79. Chemicals.
80. Materials used for bleaching, tanning, and currying.
81. Other products and manufactures not specified.

SECTION G.—MACHINERY AND IMPLEMENTS, MEANS OF TRANSPORT, APPLIANCES AND PROCESSES USED IN THE COMMON ARTS AND INDUSTRIES, INCLUDING MODELS AND DESIGNS.

82. Boilers and engines.
83. Railway plant and rolling-stock, tramways.
84. Telegraphy, telephones, heliographs.
85. Mining and metallurgy.
86. Chemistry, pharmacy, tanning.
87. Artillery, arms, ammunition, war material.
88. Civil engineering and architecture.
89. Ocean, coast, and river navigation.
90. Carriages and vehicles, wheelwrights' work.
91. Workshop machines and tools.
92. Blacksmiths' work, locks, safes, &c.
93. Carpenters' work, joinery, &c.
94. Cooling machinery and ice-machines.
95. Aërated waters and bottling machines.
96. Machines and processes for preserving food.
97. Tobacco manufacture and implements used in the consumption thereof.
98. Spinning, weaving, and rope-making.
99. Paper-making.
100. Pressing, type-making, ruling, book-binding.
101. Pressing and baling.
102. Fire-engines, extincteurs, pumps, cranes, gauges, registering instruments.
103. Electro-plating.
104. Brewing and distillation.
105. Manufacture of perfumery.
106. Manufacture of porcelain, earthenware, and glass.
107. Means of producing artificial light.
108. Sewing machines.
109. Cotton printing.

SECTION H.—FOOD PRODUCTS.

110. Tea.
111. Coffee.
112. Sugar.
113. Spices.
114. Chocolate and cocoa.
115. Bread stuffs and articles made therefrom.
116. Arrowroot, tapioca, sago.
117. Butter.
118. Ghee, lard, and other fatty substances.
119. Preserved meat.
120. Preserved soup.
121. Preserved fish.
122. Preserved fruits and vegetables.
123. Nuts.
124. Confectionery.
125. Jams and jellies.
126. Honey.
127. Essences and extracts.
128. Pickles, sauces, chutneys, and curry-powders.
129. Ale, beer, and porter.
130. Cider and perry.
131. Wines and liqueurs.
132. Spirits.
133. Cordials and syrups.
134. Aërated and mineral waters.
135. Vinegar.
136. Other provisions not specified.

SECTION I.—AGRICULTURE AND HORTICULTURE.

137. Collections of agricultural products.
138. Ditto horticultural ditto.
139. Processes, implements, and machines used in cultivation.
140. Processes, implements, and machines applied to agricultural and horticultural products.
141. Processes, implements, and machines used for irrigation.
142. Garden furniture, fountains.
143. Manures.

SECTION K.—ETHNOLOGY, ARCHÆOLOGY, AND NATURAL HISTORY.

144. Ethnological collection.
145. Archæological collection.
146. Weapons and implements of the chase.
147. Implements connected with fishery.
148. Collections of animals stuffed, &c.
149. Other natural history specimens.

CALCUTTA INTERNATIONAL EXHIBITION, 1883-84.

GREAT BRITAIN.

SECTION A.—FINE ARTS.

Classes I to VI.

Autotype Co., 74, Oxford Street, London, W.C.—Photo-engravings and photo-collotype.

Constable (W. H.), the Cambridge Stained Glass Works, the Avenue, Cambridge.—Stained glass window of two lights: subject, "Christ's Commission to St. Peter."

Dawson (A. & W.), Hogarth works, Chiswick, London, W.—Photo-typographic blocks and photo-engravings.

Doulton and Co., Lambeth, London.—Terra cotta sculptures.

Eyre and Spottiswoode, London.—Lithographic and art printing; Christmas, New Year, and other cards.

An important feature is the printing and publishing of illustrated calendars. Included in the collection now shown is the first of a series of productions of old ballads in old Missal style.

Heaton (Ralph) and Sons, The Mint, Birmingham.—Coins; medals; tokens.

Hildesheimer (S.) and Co., Silk Street, Whitecross Street, London.—Oleographs, Christmas cards; reliefs.

Langdale (E. F.), 72 and 73, Hatton Garden, London.—Water-color drawings; views of Calcutta, signed and dated "H. Daniels, 1783."

Lewis (Abel), Finch Road, Douglas, Isle of Man.—Photographic portrait studies, photographic landscapes.

Manfield (H.), Northampton.—Photographs of English landscapes; photographs of interiors.

Marsh Bros., Hart Street, Henley-on-Thames.—Photographs.

"Pictorial World" (Proprietors of the), 149, Strand, London.—Original sketches.

Renwick (George), 20, Station Street, Burton-on-Trent.—Photographs.

Tuck (Raphael) and Sons, 73, Coleman Street, City, London.—Oleographs; chromos; Christmas and other cards; ornamental terra cotta plaques, &c.

Van der Weyde (H.), 182, Regent Street, London.—Photography by the electric light and artistic reproductions therefrom.

Waterlow and Sons, Limited, 25, 26 and 27, Great Winchester Street, London.—Specimens of fine commercial engraving.—Bank notes; postage stamps; bonds; security cheques, &c., lithography, and vellum illuminating.

Webb (Miss A. M.), 73, Kensington High Street, London.—China Plaques: "Court Favourites in the Reign of George III"; "Nora,"; "Portrait of a Lady."

York and Son, 87, Lancaster Road, Notting Hill, London.—Photographic optical lantern slides.

SECTION B.—EDUCATION AND APPLICATION OF LIBERAL ARTS.

Classes VII to XV.

Artistic Stationery Company, Limited, London.—Artistic stationery, menu, programme, invitation, and other cards.

AVERY (W. & T.), London and Birmingham.—Letter balances, with and without loose weights; machines for weighing postal parcels and letters; scales, &c., for photographers.

BRIGGS AND CO., 3, Marsden Square, Manchester.—Transferring papers for embroidery.

"BRITISH TRADE JOURNAL" (The), 113, Cannon Street, London.—Specimen copies of the "British Trade Journal," bound and unbound, with its supplements.

BROWN (WILLIAM) AND CO., 40 and 41, Old Broad Street, and 38—40, St. Mary Axe, London.—Account books; paper, stationery, &c.

CASLON (H. W.) AND CO., Type Founders, London.—Specimens of type and printing materials, specimen books of type, specimen sheets of type.

CAUSTON (SIR JOSEPH) AND SONS, 47, Eastcheap, London.—Show bills; iron show tablets; account books; and other specimens of printing.

CHAMBERS (WILLIAM AND ROBT.), 47, Paternoster Row, London; and 339, High Street, Edinburgh.—School books; encyclopædias; dictionaries; reference books; general literature.

CHISHOLM (JOHN), London.—Books.

COHEN (B. S.), 24, Great Prescot Street, London.—Black lead and coloured pencils, ever-point leads, pencil-sharpeners, &c.

COLLINS (WILLIAM), SONS AND CO., Limited, London and Glasgow.—Stationery; account books.

DANIELL (S. A.), Edward Street, Birmingham.—Copying presses.

DEAN AND SON, 160, Fleet Street, London.—Illustrated and other books for children.

DICKINSON (JOHN) AND CO., 7, New China Bazar Street, Calcutta and London.—Envelopes and cards.

ENAMEL SIGN COMPANY. Works, Wolverhampton; Show Rooms, Devonshire Square, Bishopsgate, London.—Enamel tablets for advertising; street plates; railway station plates, &c.

EYRE AND SPOTTISWOODE, London.—Bibles; prayer books; church services.

FABER (JOHANN), 10, Paternoster Buildings, Newgate Street, London (Manufactory, Nuremberg, Bavaria).—Lead and colored pencils; ink and pencil erasers; slates, &c.

FAIRHOLME AND CO., 99, Shoe Lane, Fleet Street, London.—"Cyclostyle" writing and copying apparatus.

FIELD (J. C AND J.), Lambeth, London.—Sealing-wax.

FLEMING (A. B.) AND CO., Limited, 15, Whitefriars Street, London; and Caroline Park, Edinburgh.—Printing inks.

FOREIGN ART POTTERY CO., 27 to 31, Hatton Wall, London.—Artists' colors and materials, &c.

GOODALL (CHARLES) AND SON, Camden Works, Great College Street, Camden Town, London. City Warehouse: 17, St. Bride Street, Ludgate Circus, London.—Christmas cards; playing cards; drawing boards; programmes; menus; writing papers; fancy stationery.

HOCKIN, WILSON AND CO., 38, Duke Street, Manchester Square, London.—"Ruby" marking ink.

HOWARDS AND SONS, City Mills, Stratford, Essex.—Photographic chemicals; ammonium bromide; ammonium iodide; potassium bromide; potassium iodide; sodium bromide.

JOHNSTON (W. AND A. K.), Edina Works, Easter Road, Edinburgh.—Maps, atlases, globes, wall illustrations, &c.

LAWRENCE BROTHERS, 48, Farringdon Street, London, and 39, Dey Street, New York, U. S. A. (LAWRENCE AND BAXTER).—Stationery articles and fancy goods.

LOTH (DR. JOHN THOMAS), 8, Atholl Place, Edinburgh.

Album der schönsten Blüthen deutscher Dichtkunst. Grammatishe Hülfsblätter (Tabular views of the German Grammar). Damen Briefsteller (Ladies' German letter-writer). Practishe Sprachdenklehne. Conversational Guide in English, French, German, and Italian. Conversational Guide en francais, anglais,

italien et espagnol. Guide to Paris, with map. Guide to Belgium, Holland, and the Rhine. The Christian's Diary. The Ancient and Accepted Scottish Rite, Illustrated Quarto. 33 Illustrations. French, for children.

MITCHELL (WILLIAM), Washington Works, Cumberland Street, Birmingham; and 44, Cannon Street, London.—Steel pens and holders.

"PICTORIAL WORLD" (PROPRIETORS OF THE), 149, Strand, London.—Copies of the "Pictorial World," original sketches.

ROCK BROS., LIMITED, 11, Wallbrook, London.—Account books, copying, packet and memorandum books, blotting pads, wallets, letter-cases, inkstands.

SILBER AND FLEMING, 57, Wood Street, London.—Catalogue of engravings and lithographs.

SOTHERAN (H.) AND Co., 36, Piccadilly, London.—Fine art publications; book-binding.

SPALDING AND HODGE, 34, Cannon Street, City London—Hand-made papers; machine-made papers.

STEPHENS (HENRY CHARLES), Aldersgate Street, London.—Writing and copying inks; "Acilyton" inks; marking ink for linen; ink powders; sealing wax quills, steel pens, rulers, inkstands, gum mucilage, &c.

THOMSON (T. E.) AND Co., 9 Esplanade Row, Calcutta.—Measuring tapes, foot rules, land chains, scales, &c.

TRUBNER AND Co., 57 and 59, Ludgate Hill, London.—Works relating to India.

TUCK (RAPHAEL) AND SONS, 72 and 73, Coleman Street, City, London.—Oleographs, chromos, Christmas and New Year cards, birthday, Easter, text, and wedding cards.

WARNER (ROBERT), F.R.H.S., Chelmsford, Essex.—Books on select orchidaceous plants with hand-painted illustrations.

WATERLOW AND SONS, LIMITED, 25, 26, and 27, Great Winchester Street, London.—Stationery in all its branches; envelopes; account books; railway tickets; Morse and Wheatstone telegraph papers; die sinking and seal engraving; sealing-wax, prepared especially for hot climates.

MUSICAL INSTRUMENTS.

AJELLO (GIULIANO), 104, Park Street, Camden Town, London.—Vertical pianos, upright grand pianos.

AUGENER AND Co., 86, Newgate Street, London.—Classical, educational, and other music.

BAUER (GILBERT L.) AND Co., King's Road, St. Pancras, London.—Grand concert harmonium.

BESSON (F.) AND Co., 198, Euston Road, London.—Musical instruments.

BOOSEY AND Co., 295, Regent Street, London.—Military band instruments.

BRINSMEAD (JOHN) AND SONS, 18, Wigmore Street, and Brinsmead Works, Grafton Street, London.—Horizontal grand pianoforte, specially constructed to withstand the effects of extreme climates. Upright iron grand pianoforte in solid case, specially manufactured for India. Upright iron grand pianoforte with patent perfect check repeater action sostenente sounding board. Upright iron grand with patent tuning apparatus.

CHALLEN AND SON, 46, Oxford Street, and 36, Cardington Street, London.—Pianofortes.

ESDAILE AND Co., 6, Water Lane, London, E.C., and Melbourne.—Upright cottage piano.

HOSSLI (J. BORNARD).—Musical boxes.

KIRKMAN AND Co., 3, Soho Square, London.—Grand and upright pianofortes, with steel and iron frames.

SMITH (P. J.) AND SONS, 3 and 4, Princes Street, Oxford Street, London; and Queen's Road, Bristol.—Pianofortes with "patent iron-strutted frames."

SCIENTIFIC INSTRUMENTS.

AVERY (W. & T.), London and Birmingham.—Scales and balances for analysis, assay, and other scientific purposes.

DALE (H. AND E. J.), 26, Ludgate Street, London.—Photographic camera, chemical and physical apparatus.
DALE AND Co., 4, Little Britain, London.—Scientific and electrical instruments.
EYRE AND SPOTTISWOODE, London.—Mathematical instruments; artists' material.
LAZARUS (N.), London and Calcutta.—Appliances for the manufacture of patented achromatic and eureka lenses for spectacles and eye-glasses.
LEVI (JOSEPH) AND Co., 40, Castle Street, Holborn, London.—Sextants; optical goods; photographs.
MARTIN AND SON, London.—Spectacles and eye-glasses.
SOCIÉTÉ DES LUNETIERS, 56, Hatton Garden, London.—Instruments; optical goods.
SOLOMONS AND Co., Hatton Garden, London.—Optical goods, scientific and mathematical instruments and appliances.
STEWARD (J. H.), 406, Strand; 66, Strand; 456, West Strand; and 54, Cornhill, London.—Optical instruments; dissolving view apparatus.
TOWNSON AND MERCER, 89, Bishopsgate Street Within, London.—Chemical and scientific instruments.
VALE (HENRY) AND SONS, 219 & 220, Summer Lane, Birmingham.—Wire-gauze eye-protectors, spectacles and eye-glasses.
ZUCCATO AND WOLFF, 19, Charterhouse Street, Holborn Viaduct, London.—"Typograph" writing and copying apparatus.

SECTION C.—HEALTH.

CLASSES XVI TO XXII.

SANITATION AND HYGIENE.

BRUNNER, MOND AND Co., LIMITED, Northwich.—Washing alkali, carbonate of soda.
CHEAVIN (GEORGE), Wide Bargate Filter Works, Boston.—Filters.
DOULTON AND Co., Lambeth, London.—Sanitary ware and appliances, including water closets, urinals for English and Indian use, slop sinks, lavatories, sewer gas interceptors, yard gullies, air bricks, drain pipes, invert blocks, water valves of every description, water waste preventing cisterns and valves; automatic flush tanks; automatic flushing syphons; grease interceptors.
GIBBS (ROBERT RENTON), St. James Works, Mill Street, Liverpool.—Prisms for cooling and cleansing air.
GLENBOIG UNION FIRE CLAY COMPANY, LIMITED, 4, West Regent Street, Glasgow.—Glazed sewage pipes.
JENNINGS (GEORGE), Palace Wharf, Stangate, Lambeth, London.—Sanitary appliances; lavatory, water closet, and bath-room fittings.
MAIGNEN (P. A.), 22 and 23, Great Tower Street, London.—Filters; "filtre rapide," for the purification and æration of water and for the clarification of other liquids.
SILICATED CARBON FILTER Co., London.—Filters for domestic and manufacturing purposes.
SLACK AND BROWNLOW, Canning Works, Upper Medlock Street, Manchester.—Filters for domestic and manufacturing purposes.
STIFF (JAMES) AND SONS, London Pottery, Lambeth, London.—Sinks, sewer-air traps, closet pans, drain pipes, invert blocks for street sewers, gullies, and every description of sanitary stoneware highly glazed and vitrified; specialities: "Weaver's" ventilating sewer-air trap, Stiff's "interceptor" sewer-air trap, the "Weatherly" sink and Waste-water trap.
TAYLOR (J.) AND SONS, 2, Newgate Street, London.—Sanitary appliances; water closets; urinals; lavatories; baths.

CHEMICALS, DRUGS, AND MEDICINES, SURGICAL AND HOSPITAL INSTRUMENTS AND APPLIANCES, &c.

ARNOLD AND SONS, 35 and 36, West Smithfield, London.—Surgical instruments and appliances; veterinary instruments.

AVERY (W. AND T.), London and Birmingham.—Weighing machines and scales for hospital use.

BATTLEY AND WATT, 32, Lower Whitecross Street, Cripplegate, London.—Pharmaceutical preparations.

BECKER (F. E.) AND Co., 34, Maiden Lane, Covent Garden, London.—Chemical apparatus, chemicals.

BURGOYNE, BURBRIDGES, CYRAIX, AND FARRIES, 16, Coleman Street, London.—Drugs and medicines, carbolic and camphor soaps.

BURROUGHS, WELLCOME AND Co., Snow Hill Buildings, Holborn, London, E.C.—Haydines *Burroughs'* beef and iron wine, "Enterprise" tincture pills, Kepler's extract of malt and other preparations.

CALVERT (F. C.) AND Co., Manchester.—Carbolic, or phenyl, and its preparations for medicinal, surgical, sanitary, and toilet uses; carbolic and other soaps.

EVANS AND WORMULL, 31, Stamford Street, London.—Surgical instruments.

EVANS, LESCHER AND WEBB, 60, Bartholomew Close, London.—Drugs; chemicals; pharmaceutical preparations; druggists' sundries.

FERRIS, BOORNE, TOWNSEND AND BOUCHER, 4 and 5, Union Street, Bristol.—Drugs; chemical and pharmaceutical preparations; new remedies; tasteless pearl-coated pills; pure thymol soap; surgical instruments; hospital appliances; microscopes; scientific instruments.

FLETCHER, FLETCHER, AND STEVENSON, North London Chemical Works, Holloway, London.—Drugs and chemicals.

HERRINGS AND Co., 40, Aldersgate Street, London.—Pharmaceutical preparations; essential oils.

HEWLETT (CHARLES J.) AND SON, 40, Charlotte Street, Shoreditch, London.—Pharmaceutical preparations; drugs and chemicals.

HOCKIN, WILSON AND Co., 38, Duke Street, Manchester Square, London.—Seidlitz powder.

HOWARDS AND SONS, City Mills, Stratford, Essex.—Quinine; cinchona alkaloids and their salts; cinchona barks; pharmaceutical chemicals.

JACKSON (GEO.) AND SONS, 49, Rathbone Place, Oxford Street, London.—Patent fibrous plaster.

JEYES' SANITARY COMPOUNDS COMPANY, LIMITED, 43, Cannon Street, London.—Jeyes' "perfect purifier" disinfectant and cleanser; disinfectant powder; disinfectant soaps; non-poisonous sheep dip; wood preserver, &c.

JONES (G. H.), 57, Great Russell Street, London.—Artificial teeth; dental appliances.

KEPLER MALT EXTRACT COMPANY, Snow Hill Building, London, E.C.—Cod liver oil, extract of malt and its preparations.

KHOOSH TONIC BITTERS COMPANY, LIMITED, 24, King William Street, London; and 12, Goree Piazzas, Liverpool.—Khoosh tonic bitters.

LALOR (R. D.), London.—Patent medicine, phosphodyne.

LANGDALE (E. F.) (Price & Co.), 72 and 73, Hatton Garden, London; and No. 1 Warehouse, London Docks, London.—Drugs; essences.

LISTER (J.) & Co., Mansion House Chambers, 2, Queen Victoria Street, London.—Chemicals.

LONGSHAW (WILLIAM) & SONS, Sankey Bridge Chemical Works, Warrington.—Carbolic acid; colours; chemicals.

LORRIMER AND Co., 42 and 44, Hargrave Park Road, London.—Drugs and medicines, extract of sarsaparilla.

MALTINE MANUFACTURING COMPANY, LIMITED, 24 and 25, Hart Street, Bloomsbury, London.—Maltine food; beef peptenoids; Victoria bitter water.

MORRIS, LITTLE & SON, Doncaster.—"Phenyle."

NESS & Co., Darlington.—"Tar elixir" sheep dip and cattle dressing; "thymocresol" disinfectant and insecticide; disinfecting powders.

PACKARD (E.) AND Co., Ipswich.—Superphosphates, phosphatic gypsum, dissolved bones, solid phosphoric acid, &c.
RICHARDS (J. M.), Great Russell Street, London, W.C.—Lactopeptine.
ROWCLIFFE (JOHN B.) & Co., Sanitary Wire Mattress Works, Glossop, near Manchester.—Wire mattresses for hospital and private use.
SANITAS COMPANY, LIMITED, Leochford's Buildings, Three Colt Lane, Bethnal Green, London.—Disinfecting fluids; powder soap; ointment; antiseptic gauze; fumigators.
VICTORIA BITTER WATER COMPANY, London.—Victoria bitter water, from the springs of Budapest, Hungary.
WARNER (JOHN) AND SON, Crescent Foundry, London, E.C.—Portable copper hospital baths.
WHIFFEN (THOMAS), Lombard Road, Battersea, London.—Chemicals.

SECTION D.—FURNITURE AND OTHER OBJECTS FOR THE USE OR DECORATION OF DWELLING-HOUSES AND OTHER BUILDINGS.

CLASSES XXIII TO XXXVII.

FURNITURE, CARPETS, UPHOLSTERY, &c.

BLACKWOOD (ROBERT) & SONS, Burnside Works, Kilmarnock, Scotland.—Carpets.
BURROUGHES AND WATTS, 19, Soho Square, London.—Billiard table.
CHAPMAN, SONS, & Co., 2, Charterhouse Buildings, London.—Fancy cabinet goods.
CHRYSTOLEUM COMPANY, London.—Chrystoleum.
CROSSLEY (JOHN) & SONS, Limited, Dean Clough Mills, Halifax.—Carpets; rugs; table-covers; furniture coverings, &c.
DISS (ALFRED), 24A, Knightrider Street, Queen Victoria Street, London.—Household fire escape.
EDGINGTON (BENJAMIN), 2, Duke Street, London Bridge, London.—Trestle cot; Cabul pál.
HENDRY, WHYTE AND STRACHAN, National Floor Cloth Works, Kirkaldy.—Floor cloth and linoleum.
HINDLEY (C.) & SON, 290-294, Oxford Street, London.—Furniture chintzes; Japanese leather papers.
KING (HENRY S.) & Co., 65, Cornhill, London.—Dâk bungalow equipment.
KNIGHT (MISS MARY), 1 Anderson Street, King's Road, Chelsea, London.—Hospital quilt patchwork.
LIGHT (C. & R.), Curtain Road, London.—Bedroom suite of furniture.
NARTHER.—Folding chairs and tables, hammocks.
NAIRN (MICHAEL) & Co., Kirkcaldy, Scotland.—Floorcloth; linoleum.
NEWALL (R. S.) & Co., Gateshead-on-Tyne.—Picture cords, gilt and silvered, &c.
NORDLINGER (S. & C.), 44, Sackville Street, Manchester.—Printed cretonnes (furniture prints).
ORTELLI (JOHN) & Co., 48 and 49, Hatton Garden, London.—Gilt console tables; cabinets; mirrors in gilt frames.
POTTER (C. & J. G.), Belgrave Mills, Darwen, Lancashire.—Paper hangings.
RIGOLD (B.) & BERGMANN, 82, Bishopsgate Street Within, London.—Mouldings for picture and looking-glass frames.
SKITT & Co., 93, Sumner Street, Southwark Bridge Road, London.—Looking glasses.
TEMPLETON (JAMES) AND Co., 77, Newgate Street, London, and William Street, Greenhead, Glasgow.—Axminster carpets and rugs; English-made Persian

carpets and rugs; Mecca and Yeddo rugs; Brussels and Wilton carpets, fillings and borderings, whole wove carpets to elegant designs for large halls, durbar rooms, &c.

THOMSON (T. E.) & Co., 9, Esplanade Row, Calcutta:—Coalbrook Dale Co.'s real bronze statues; gold bronzed chairs and seats; illuminated chairs, tables and hat stands.

THURSTON & Co., 16, Catherine Street, Strand, London.—Billiard table and accessories.

VYSE, SONS & Co., Wood Street, Cheapside, London.—Perfect safety "Canopy" cot.

WALTERS (D.) & SONS, 43-45, Newgate Street, London.—Furniture silks and trimmings.

WALTON (FREDK.) AND Co., LIMITED.—Lincrusta-Walton the "Sunbury Wall Decoration." Patentees and Sole Manufacturers, Fredk. Walton and Co., Limited, Sunbury-on-Thames, Middlesex; 9 Berners Street, Oxford Street, London; Crystal Palace, Sydenham.

WARNER AND RAMM, Silk Damask Manufacturers, 9, Newgate Street, London, E.C.—Silk damask, satins, and damasquette; Genoa velvets; coletines, poplins and cordinettes. Tapestries and rich furniture silks.

WRIGHT (GEO.) & Co., 162 to 164, Westminster Bridge Road, London.—Combined billiard and dining table.

GLASSWARE, POTTERY, CHINAWARE, &c.

AIRE AND CALDER GLASS BOTTLE WORKS (E. BEEFFIT & Co., LIMITED), 83, Upper Thames Street, London; and Castleford, Yorkshire.—Glass bottles; aërated water bottles; cases; capped pomades; feeding bottles.

BARNETT & FOSTER, "Niagara" Works, 26, Eagle Wharf Road, London.—Syphon bottles; aërated water bottles; beer bottles.

BEVINGTON (THOMAS), China Manufacturer, Burton Place Works, Hanley, Staffordshire.—Art pottery, earthenware, porcelain dinner ware, flowered and ornamental porcelain ware, and the new Victorian ware.

BOOTH (T. & R.), Burslem, Stafford.—Encaustic, mosaic, and ornamental tiles; earthenware.

BOULTON AND MILLS, Glass Manufacturers, Andnam Glass Works, Stourbridge.—Richly cut table glass; ornamental glass; flower vases, and bowls in all the new colors; ornamental lamps in cut crystal and coloured glass vases and pedestals; cut crystal teapoys and fancy articles.

BRATBY & HINCHLIFFE, Sandford Street, Ancoats, Manchester.—Syphons; patent and ordinary bottles (all kinds), with and without stoppers.

BROWNFIELD (WILLIAM) AND SONS, Cobridge, Staffordshire.—Useful and ornamental china and earthenware.

CHAPMAN SON, AND Co., London.—Glassware.

CODD (HIRAM), 41, Gracechurch Street, London.—Codd's patent "globe" stoppered aërated water bottle.

CHAVES, DUNNILL AND Co., LIMITED, Jackfield Works, near Ironbridge, Shropshire.—Geometrical encaustic and ceramic mosaic tiles; enamelled and decorative art tiles.

CRYSTAL PORCELAIN POTTERY Co., LIMITED, Cobridge, Stoke-on-Trent, Staffordshire.—Vitreous and non-absorbent tiles.

DEFRIES (J.) AND SONS, 147, Houndsditch, London; Paris; and 70, Bentinck Street, Calcutta.—Glassware; crystal chandeliers; lamps; china; earthenware.

DOULTON & Co., Lambeth, London.—General *stoneware*, consisting of bottles for spirits and acids, covered jars, funnels, air-tight covered jars, ink bottles, filters, jars, pitchers, pans, jugs, mugs, foot-warmers, patent manganous carbon filters, refrigerator filters, table filters, carbon blocks and slabs, direct

service filters, pocket and syphon filters, and every description of domestic pottery; mural decorations in various kinds of tile work, in plaques and panels; balustrades for staircases, terraces, &c., and wall fountains in Doulton art pottery.

FARNLEY IRON COMPANY, LIMITED, Farnley, near Leeds.—Glazed bricks.

FELL (THOMAS) AND CO., LIMITED, St. Peter's Pottery, Newcastle-on-Tyne.—Cream-colour glass ware; enamelled glassware, &c.

FOREIGN ART POTTERY COMPANY, 27 to 31, Hatton Wall, London.—Art pottery; terra cotta.

FORESTER (T.) AND SONS, Phœnix Works, Longton, Staffordshire of Majolica and Earthenware.—Fancy and ornamental earthenware.

GATESHEAD STAINED GLASS CO., Gateshead-on-Tyne.—Stained window glass.

GUEST BROS., Brettle Lane, Stourbridge.—Ornamental glass of all kinds.

HARRISON (JOHN), Linthorpe Pottery, Middlesborough-on-Tees.—Vases; plaques; flower pots; tea and coffee sets, &c.

MALKIN, EDGE AND CO., Burslem.—Encaustic tiles and mosaics.

MAW AND CO., Benthal Works, Broseley, Shropshire.—Geometrical, mosaic, and encaustic tile pavements; glazed tiles for hearths, walls, &c.

M'CAW, STEVENSON AND ORR, Patentees and Manufacturers, Linnehall works, Belfast, Ireland.—Patent glacier window decoration.

MINTON, HOLLINS AND CO., Patent Tile Works, Stoke-upon-Trent.—Encaustic, majolica, enamelled, art-painted, and plain tiles; mosaics.

OSLER (F. & C.), Calcutta, Birmingham, and Oxford Street, London.—Glassware; earthenware.

PATTESON (J. H.), Oxford Street, Manchester.—Marble mosaic tiles for floor and wall decoration.

PEAKE (THOS.), Turnstall.—Pottery, tiles, &c.

PELLATT (APSLEY) & CO., Falcon Glass Works, 17, St. Bride Street, London.—Table glass; lustres; chandeliers.

SILBER & FLEMING, 71, Wood Street, Cheapside, London.—Fancy glass and China goods for table and toilet use.

SOWERBY'S ELLISON GLASS WORKS, LIMITED (Gateshead Stained Glass Company), Gateshead-on-Tyne.—Crystal and flint table glass (plain and coloured); fancy glass.

STIFF (JAMES) & SONS, London Pottery, Lambeth, London.—Architectural terra-cotta of all kinds.

SUGAR (MAX), Roseleigh Flint Glass Works.—Flint and colored glass goods, silvered by the new patent process; best plate glass; metallic and velvet mounted plateaux; girandoles; Venetian mirrors; brackets for decorations.

TORQUAY TERRA COTTA COMPANY, LIMITED, Hele Cross Pottery, Torquay, Devonshire.—Fine art pottery in terra cotta.

TUCK (RAPHAEL) & SONS, 72 and 73 Coleman Street, City, London.—Ornamental terra cotta plaques and ware; artistic room decorations.

TURNBULL (MATHEW), Cornhill Flint Glass Works, near Sunderland.—Pressed and flint glass.

TURNER & WOOD, Copeland Street Works, Stoke-on-Trent.—Parian; China; terra-cotta; majolica; earthenware.

TYLER (HAYWARD) & COMPANY, 84 and 85, Upper Whitecross Street, London.—Patent stoppered, screw-necked, syphon and other bottles for aërated waters.

WALSH, LOVETT & CO., Birmingham, Sheffield, and London; and Commercial Buildings, Calcutta.—Encaustic tiles for walls, floors and hearths.

WUIDART (J.) & CO., 55, Holborn Viaduct, London; and Jumet, Belgium.—Belgian table glassware.

METALWARE, HARDWARE, AND CUTLERY.

ANGLO-AMERICAN TIN STAMPING COMPANY, LIMITED, Stourport, Worcester.—Blue and white enamelled ware (plain, printed various designs, and hand-painted); bright tinned ware; crystallised ware; Japanned ware (all seamless).

BALDWIN, SON & Co., Stourport.—Cast iron enamelled ware.
BROOKES & CROOKES, Atlantic Works, Sheffield.—Pen, pocket, sporting and table knives; razors; scissors; button hooks; nail files; dressing cases, &c.
BUTLER (GEORGE) & Co., LIMITED, Sheffield.—Cutlery.
DIXON (JAMES) & SONS, Sheffield.—Silver ware; electro-plated ware.
EVANS & WORMULLS, 31, Stamford Street, London.—Cutlery.
FEARNCOMBE (H.) & Co., Wolverhampton.—Tin plate, steel, brass, japanned, and nickel-plated wares.
GERBER (AUGUST).—Bronzine.
JOHNSON (CHRISTOPHER) & Co., Sheffield.—Cutlery.
JONES BROTHERS & Co., Ablow Street, Wolverhampton; Show rooms, Devonshire Square, Bishopsgate Street, London.—Tinned and enamelled stamped steel hollow ware; tinned wares; japanned wares; steel travelling boxes.
LOVERIDGE (HENRY) & Co., Merridale Works, Wolverhampton.—Tin plate, iron, brass, copper, japanned, and nickel-plated wares.
MAPPIN & WEBB, 2, Queen Victoria Street, London; and Norfolk Street, Sheffield.—Electro silver plate; cutlery.
ORME, EVANS & Co., Wolverhampton.—Hollow ware.
PEMBERTON (THOMAS) & SONS, Birmingham.—Cabinet and decorative brass-foundry for builders.
PEYTON & PEYTON, BIRMINGHAM.—Brass, nickel, and iron bedsteads, &c.
POTOSI COMPANY, Barr Street, Birmingham.—Potosi silver; electro-plated spoons and forks.
POUND (JOHN) & Co., 81, 82, and 83, Leadenhall Street, London.—Cutlery.
RAWSON BROS, Carver Street, Sheffield.—Cutlery.
SAYNOR, COOKE, & RIDAL, Sheffield.—Cutlery.
SCOTT (G. W.) & SONS, 43, Old Compton Street, Soho Square, London.—Enamelled ware; luncheon baskets.
SELF-OPENING TIN BOX COMPANY, 19, Kirby Street, Hatton Garden, London.—Tin boxes.
SHELDON (EDWARD) & Co., Cannon Iron Foundry, Deepfields, near Bilston, Staffordshire.—Enamelled and tinned cast iron hollow ware; cooking utensils, &c.
SOUTTER AND SON (W.), Birmingham.—Brass and copper hollow ware.
THOMSON (T. E.) AND Co., Esplanade Row, Calcutta.—Wire mattresses and reed bed and mattress; aviary, canary, and parrot cages; dog collars.
THORNHILL & Co. (W.), London.—Cutlery.
TINPLATE DECORATING Co., Melyn Tin Works, Neath, South Wales.—*Decorated and crystallised tin plates*; articles manufactured therefrom.
TURNER (S. F.) SONS, Dudley, Worcestershire.—Galvanized buckets; scoops; pans, &c., and bedsteads.
WALKER & Co., Dudley.—Buckets and other galvanised ware.
WALSH, LOVETT & Co., Birmingham, Sheffield and London; and Commercial Buildings, Calcutta.—Repoussé and plain polished brass work; copper kitchen utensils, &c.

WATCHES, CLOCKS, &c.

CONSTANTINE (HENRY) & Co.—Watch glasses.
DONNE (LEWIS), London.—Watches.
MOJON, MONTANDON & Co.—Gold and silver watches.
PARKINSON & FRODSHAM, 4, Change Alley, Cornhill, London.—Watches; clocks.
PERRIER (M. A.).—Silver watches.
SAMUEL (A.) & SON, 29, Ely Place, London.—English-made watches.
WAGNER & GERSTLY, London.—Cheap metal and silver watches.
WARD (H. S.) & Co., 58, Holborn Viaduct, London.—Clocks; aneroids.

APPARATUS AND PROCESSES FOR COOLING, HEATING, AND LIGHTING.

ALBION LAMP Co., Birmingham.—Kerosene stoves.
ALDER & MACKAY, Grange Meter Works, Edinburgh.—Wet gas meters.

ALSING & Co., London.—Safety and ordinary matches.
ALUMINIUM CROWN METAL Co., London.—Lamps, metalware and hardware.
BEJEMANN (G.) AND SONS, Pentonville Road, London.—Specimens of antique, mediæval and modern work in gilt ormolu metals, Algerian marble, ornamental woods, &c.
BUGG (WM.) AND Co., LIMITED, Vincent Works, London.—Lamps; globes; burners, &c.
CAPELL (R. A.), 18 and 19, Bloomfield Street, London Wall, London.—Thermantidotes; exhaust fans; blast fans; air-cooling apparatus.
CLARKE (SAMUEL), Pyramid Night-light Works, Child's Hill, London.—Pyramid food-warmers; pyramid night lights.
COCHRAN (A. & R.), St. Rollox Flint Glass Works, Glasgow.—Gas moons and shades; lamp globes; chimneys, &c.
COWAN (W. B.), London and Edinburgh.—Gas meters, &c.
DUFFIELD & JAMES, Alexander Stamping Works, Monmer Lane, Willenhall.—Gas-fittings, &c.
GLENBOIG UNION FIRE-CLAY COMPANY, LIMITED, 4 West Regent Street, Glasgow.—Fire-bricks; raw fire-clay; ground fire-clay; gas retorts.
HARRIMAN (WM.) & Co., LIMITED, Blaydon-on-Tyne.—Fire bricks; sanitary pipes; glazed bricks, &c.
HEATON (RALPH) AND SONS, The Mint, Birmingham.—Gas fittings; water fittings.
HINKS (JAMES) & SON, LIMITED, Birmingham; and 60 Holborn Viaduct, London.—Lamps for burning hydro-carbon oils.
KENT (GEORGE), 199, 200, 201, High Holborn, London.—Ice-making machines and refrigerators.
PRINCE & SYMMONS, 128 and 130, Commercial Street, London.—Lamps.
PRIORY BRASS Co., 38, 39, and 40, Coventry Street, Birmingham.—Gas, steam and water cocks, fittings, &c.
SILBER LIGHT COMPANY (Proprietor A. M. Silber), 49, Whitecross Street, London.—Oil lamps; gas lamps; and other lighting apparatus.
SOUTTAR (W.) & SON, Birmingham.—Gas chandeliers.
SUGG (WM.) AND Co., LIMITED, Vincent Works, Vincent Street, London.—Lamps, globes, burners and coffee roaster.
THOMSON (T. E.) AND Co., 9, Esplanade Row, Calcutta.—Smith and Wellstood's patent and registered American cooking stoves; portable kitchen ranges; church, hall, parlour, tent and laundry stoves; ships' galley ranges and yacht stoves.
WALSH, LOVETT & Co., Birmingham, Sheffield, and London; and Commercial Buildings, Calcutta.—Chandeliers; gas fittings.
WARNER (J.) SON, Crescent Foundry, Cripplegate, London.—Copper baths and copper cooking utensils.
WILSON ENGINEERING COMPANY, LIMITED, 227, High Holborn, London.—Portable cooking ranges, stoves.
WRIGHT AND BUTLER, LIMITED, New John Street, West, Birmingham.—Kerosene lamps and chandeliers; oil cooking stoves; wall lamps and lanterns.
YOUNG'S PARAFFIN LIGHT AND MINERAL OIL COMPANY, LIMITED, 7 West George Street, Glasgow.—Lamps for burning paraffin oil and petroleum; lamp, fittings, &c.

MARBLE.

CERTALDO MARBLE COMPANY, LIMITED, Canal Road, York Road, London.—Marble tiling.
THOMLINSON, Bakewell, Derbyshire.—Inlaid table of Derbyshire black marble.

GAMES AND TOYS.

AYRES (F. H.), 114, Aldersgate Street, London.—Outdoor and indoor games.
DUKE & SON, Pensburst, Kent.—Cricket balls and appliances.
FELTHAM & Co., Little Britain, London.—Archery; lawn tennis; cricket and other games.

JEFFRIES & Co., Wood Street, Woolwich.—Racket bats, cricket and lawn tennis bats, and the indestructible catgut seam cricket ball.
LILLYWHITE (JAMES), FROWDE & Co., 4 and 6, Newington Causeway, London.—Appliances for cricket, lawn tennis, and other athletic sports.
YATES (JOHN) & Co., Pritchett Street, Birmingham, and Exchange Works, Aston Manor, Birmingham.—Steel toys of all descriptions.

OTHER HOUSEHOLD UTENSILS AND APPLIANCES.

AVERY (W. & T.), London and Birmingham.—Scales for domestic use.
BRACHER (PHILIP HENRY) & COMPANY, 77, High Street, Wincanton.—Mixing machines.
KENT (GEORGE), 199, 200, 201, High Holborn, London.—Knife-cleaning machines, and other domestic labour-saving appliances.
KENT (G. B.) AND SONS, 11, Great Marlborough Street, London.—Brushware.
LLEWELLIN.—Patent time-checking machine for workmen and others.
PATENT PULP MANUFACTURING COMPANY, LIMITED, Thetford, Norfolk; and 79, Coleman Street, London.—Basins; trays; fancy goods.
POTTER (F. W.), 16, Hill Street, Finsbury, London.—Sieves, screens, wire gauze; wire work.
THOMAS (J. J.) & Co., 87, Queen Victoria Street; and 285 and 362, Edgware Road, London.—Bird cages; domestic wire work sieves.
WING (GEO.), Plane Tree Works, Sheffield.—Carved bread and butter platters; knives, &c.
YEATMAN & Co., 119 New Bond Street, London.—Electric knife polish.

SECTION E.—FABRICS, INCLUDING APPAREL, TOILET REQUISITES AND OTHER OBJECTS OF PERSONAL WEAR OR USE.

CLASSES XXXVIII TO LII.

FABRICS.

ANDERSON, ABBOTT & ANDERSON, 37, Queen Victoria Street, London; Works, Limehouse, London.—India-rubber waterproof goods.
BRADFORD CHAMBER OF COMMERCE, Exchange, Bradford.—Collective exhibit of silks; plushes; velvets; gros grain; sewing and knitting silk threads; woolen and worsted textiles; tapestries; blankets; rugs, &c.
BROWN (J. & H.), Ettrick Mills, Selkirk, Scotland.—Fancy woolen tweeds.
CARLISLE, DOUGLAS & Co., Museum Street, Manchester.—Fine muslins.
CHRISTY (W. M.) & SONS, LIMITED, Fairfield Mills, Manchester.—Royal Turkish towels; Broche and damask terry towels; tennis terry; terry bath blankets; honeycomb, huckaback, and all kinds of fancy towels.
CREWDSON, CROSSES & Co., LIMITED, 40, Portland Street, Manchester; 10 Lawrence Lane, London; 77, Queen Street, Glasgow; Mills, Bolton, and Farnworth.—White calicoes.
DEAN (R. H.) & Co., Nottingham.—Lace manufactures, &c.
DUNKERLEY (JOSEPH) & SON, Royal George Mill, Macklesfield.—Silks.
ECCLES (JOSEPH) & Co., Steam Mill, Fylde Road, Preston.—Leno gauze; Leno muslins; Leno scarves; checked muslins.
FERGUSON BROTHERS, Holme head Works, near Carlisle.—Dyed silesias; pocketings; satteens (dyed and printed); silk striped satteens, &c., for tailors' linings; pure domestics and shirtings.
GUNNIS (G. P.) & Co., 33, Charlton Street, Manchester.—Plain white cotton piece-goods.
HARTLEY BROS., Shelley Road Mills, Preston.—Lenos, *dhutis*, and other fancy cotton goods.

HASLAM (JOHN) & Co., LIMITED, Fountain Street, Manchester.—Bleached calicoes, including longcloths (both fine and heavy makes), shirtings, mediums, double warps, twills, sheetings, &c.

HOOPER (CHARLES) & Co., Eastington Mills, Stonehouse, Gloucestershire.—Superfine woollen cloth.

HORROCKSES, MILLER & Co., Factories, Preston; Warehouses, 55, Piccadilly, Manchester, and 9, Bread Street, London.—Fine and stout white cotton long cloths; cambrics; twilled shirtings; plain and twilled sheetings.

HOYLE (JOSHUA) & SONS, LIMITED, 41, Mosley Street, Manchester.—Mexican T cloths, scoured gray calico, fine white twills, and shirtings.

HUNT AND WINTERBOTHAM, Corn Mills, Dursley, Gloucestershire.—Superfine cloth manufacturers; worsted oriental cloths in all colors; cricketing flannel; superfine cloths and doeskin; military cloths and serges in all colors; cassimeres and kerseys; billiard cloth; broad cloth; coatings and hunting cord.

JOHNSON (JABEZ), SON, ALLSOP & Co., Moor Mills, Bolton; 44, Spring Gardens, Manchester; 10, Milk Street, Cheapside, London; Royal Exchange Court, Queen Street, Glasgow.—Quilts; Alhambras; cotton blankets; toilet, honeycomb, and damask covers; Turkish, honeycomb, and fancy towels; white, coloured, and raised quilting; damasks, &c.

KER, DODS, & Co., Calcutta; Dods, Ker & Co., Manchester.—Grey, white, dyed, printed and fancy cotton goods; woollens; unions and silks, &c.

LANGWORTHY BROS. & Co., 12, Charlotte Street, Manchester; Greengate Mills, Salford; and 1, Old Change, London.—Cords; moles; velveteens; drills; twills; regattas; ticks; nankeens, &c.

LECKY (F. B.) & Co., 56, Aldermanbury, London.—Irish linens.

MILLER (T. P.) & Co.—Glasgow Turkish red yarn.

NORDLINGER (S. & C.), 44, Sackville Street, Manchester.—Printed cretonnes (furniture prints).

ROSE (A.).—Hosiery.

ROSSENDALE PRINTING COMPANY, 33, George Street, Manchester; Works, Love Clough, Rossendale.—Printed cottons.

SHATWELL (H.) & Co., King Edward Street Mill, Macclesfield.—Silk manufactures, sarsnets, &c.

SWAINSON, BIRLEY & Co., Fishwick Mills, Preston; 27, Portland Street, Manchester; and 5, Goldsmith Street, London.—Longcloths, mediums, twills, plain and fancy muslins, satteens, matelasses, drills, angolas, &c.

TOOTAL, BROADHURST, LEE & Co., 56, Mosley Street, Manchester; Mills; Rumworth, Colton, Black Lane, and Newton Heath, Lancashire.—Cotton, silk, and wool manufactures.

WARD (ANTHONY) & Co., Albion Mills, Leek, Staffordshire.—Silk and mohair braids.

WEBSTER (FRANCIS) AND SONS, Alma Works, Arbroath, Scotland, and Castle Court, Lawrence Lane, London.—Sail cloth, canvas, twines.

WHITEHEAD & SANDBACH, 113, Portland Street, Manchester.—Plain and fancy cotton and union goods.

UMBRELLAS, HATS, BOOTS, &c.

AARON, SONS AND Co., 18 Jewin Street, Aldersgate Street, London.—Umbrellas, parasols, walking sticks.

ALFORD AND MCMASTER.—Kid gloves.

BARKER (J. D.), 80, Great Clyde Street, and 85, Fox Street, Glasgow.—Umbrellas suitable for tropical climates.

BENTON AND JOHNSON, 63, King's Cross Road, London.—Gold thread, wire, and lace.

BUCKINGHAM (SLATER), London.—Silk umbrellas on "paragon" frames, braces, handkerchiefs, &c.

DEANE AND Co. (R. H.), Heathcote Buildings, Nottingham.—Mob caps and laces.

ELLWOOD (JOHN) AND SONS, 24, Great Charlotte Street, Blackfriars Road, London. —Hats, caps, and helmets, specially adapted for the climate of India.
EVERCLEAN COLLAR AND CUFF COMPANY, 127, Leadenhall Street, London, E.C.— Everclean collars and cuffs.
FIRMIN & SONS, 153 to 155, Strand, London.—Military ornaments, accoutrements and embroidery.
FLATAU (A. AND W.) AND Co., Ropemaker Street, Finsbury, London, and Victoria Road, Northampton.—Boots and shoes.
HARRIS (HENRY), 56, St. Michael's Road, Northampton.—Boots and shoes.
KENNING (GEORGE), 1, 2, 3, 4, Little Britain, 195, 196, and 197, Aldersgate Street, London. Branch establishments Manchester, Liverpool, and Glasgow.—Gold and silver laces, military accoutrements and embroideries, freemasons' insignia.
KIRBY, BEARD AND Co., 155, Newgate Street, London and Birmingham.—Pins, needles, hair pins, safety pins.
LION (A. J.) & Co., London.—Boots and *shoes.*
LINCOLN, BENNETT AND Co., 1, 2 and 3, Sackville Street, and 40, Piccadilly, London (Hatters to T. R. H. the Prince and Princess of Wales).—Hats and helmets.
MARSHALL (THOMAS D.) AND BURT, 444, Oxford Street, London.—Boots and shoes.
MAYNARD, HARRIS AND Co., 126 and 127, Leadenhall Street, London.— Military accoutrements.
MILWARD (HENRY) AND SONS, Washford Mills, Redditch.—Needles, machine needles.
RANDALL (H. E.), Northampton.—Boots and shoes, *tennis sole.*
SIMPSON AND ROOK, 9 and 10, *Little Britain,* London—Military accoutrements, gold laces, and embroideries.
SINCLAIR (ROBERT) AND Co., 86, Wood Street, London; Manufactory, Londonderry.—Shirts.
SOLLY (ALLEN) AND Co., London.—Banians, drawers, socks, and stockings.
SWAN AND EDGAR, Piccadilly Circus, London.—Gossamer *waterproof* garments.
THORNHILL AND Co. (W.), London.—Umbrellas.
TRESS AND Co., 3, Stamford Street, London.—Tropical hats and helmets; silk felt hats.
TURNER (R.) AND SONS, Old Factory, Redditch.—Pins; brass and steel needles; G. Chambers and Co.'s patent needles.
WATSON (DR. J. FORBES), 21, Lime Street Chambers, London.—Helmets and other covers specially adapted for the protection of the head from the sun and heat in hot climates. (Manufactured by Christy and Co., London.)

JEWELRY AND PRECIOUS STONES.

CULVER (EDWARD), Spencer Works, Clerkenwell Road, London.—Jewelry, precious stones.
FRANCATI AND SANTAMARIA, 65, Hatton Garden, London.—Cameos, mosaics, corals, lava goods, jewelry.
GOWLAND BROS., 48, Cornhill, London.—Jewelry.
HENRY (*RICHARD L.*), 11, Hatton Garden, London.—Diamond and gem jewelry.
JOSEPH (B. H.) AND Co., Frederic Street, Birmingham.—Gold and silver jewelry.
KENNING (GEORGE), London.—Masonic jewelry.
LEVETUS BROS., Canada Works, Victoria Street, Birmingham.—Gold plated chains, seals, and *lockets.*
MONTINI (ANTONIO), Scarborough.—Coral jewelry.
SAUNDERS AND SHEPHERD, 25, Bartlett's Buildings, Holborn, London.—Enamelled jewellery, &c.
WAGNER AND GERSTLY, London.—Silver jewelry.
WILKINSON AND SON, 1 and 2, Skinner Street, Clerkenwell, London.—Gold rings.

TOILET REQUISITES.

ATKINSON (J. AND E.), 24, Old Bond Street, London.—Eau de cologne, lavender waters, essences, and all kinds of perfumes for the handkerchief and toilet,

pomatums, hair washes, toilet soaps, toilet powders, dentifrices, toilet waters, cosmetics, and general toilet requisites.

BRITISH XYLONITE CO., LIMITED, Dashwood House, New Broad Street, London.—Combs, brushes, &c.

GOSNELL (JOHN.) AND CO., London.—Perfumery, toilet brushes, and brown soaps.

HOCKIN, WILSON AND CO., 38, Duke Street, Manchester Square, London.—Violet powder, poudre de riz, fancy soaps, &c.

LANGDALE (E. F.) (PRICE AND CO.), 72 and 73, Hatton Garden, and No. 1 Warehouse, London Docks, London.—Perfumery, essences.

LUCE (G.), 44, King Street, Jersey.—Eau de cologne.

RICHARDSON (JOHN) AND CO., 20—23, Artillery Lane, Bishopsgate Street, London.—Fancy toilet soaps and perfumery.

RIMMEL (EUGENE), 96, Strand, London.—Perfumery, toilet soaps, aromatic disinfectants.

STEWART (S. R.) AND CO., Aberdeen Comb Works, Aberdeen.—Combs and other horn and tortoise-shell manufactures.

TRUNKS, DRESSING BAGS, &c.

EYRE AND SPOTTISWOODE, London.—Leather and cabinet goods; purses; albums; writing desks; dressing cases; work boxes; bags, &c.

FARWIG (J. F.) AND CO., 26, Queen Street, Cannon Street, London—Japanned despatch, deed, uniform and dress boxes.

FEARNCOMBE (H.) AND CO., Phœnix Japan Works, Wolverhampton.—Travelling trunks.

JONES BROTHERS AND CO., Ablow Street, Wolverhampton; Show rooms, Devonshire Square, Bishopsgate Street, London.—Steel travelling boxes; tinned and enamelled stamped steel hollow ware; tinned wares; japanned wares.

MAPPIN AND WEBB, 2, Queen Victoria Street, London; and Norfolk Street, Sheffield.—Dressing bags and cases.

POUND (JOHN) AND CO., 81, 82 and 83, Leadenhall Street, London.—Portmanteaus; trunks; bags; dressing bags; dressing cases.

THORNHILL (W.) AND CO., 144, New Bond Street, London.—Dressing cases; travelling bags; articles de luxe; diamante brilliants; fine cutlery.

PIPES.

DAVIDSON (THOMAS), JUN., AND CO., Caledonia Pipe Works, Garngad Hill, Glasgow.—Clay tobacco pipes, plain and coloured.

IZOD (JOSEPH), 20, Farringdon Road, London.—Meerschaum pipes; briar-wood pipes.

SECTION F.—RAW PRODUCTS AND MANUFACTURES FROM PRODUCTS NOT INCLUDED IN OTHER SECTIONS.

CLASSES LIII TO LXXXI.

OIL, SOAP, &c.

ATKINSON (J. & E.), 24, Old Bond Street, London.—Toilet soaps, perfumery, dentifrice, and toilet requisites.

BRECKNELL, TURNER AND CO., Haymarket, London.—Saddle soap; skin soap.

BREMNER AND CO., Bengal Works, Rotherhithe, London.—Crystal gum; mineral glue.

BRUCE BROTHERS AND CO., Govan Oil Works, Govan, near Glasgow.—Oils; greases.

BUSH (W. J.) AND Co., 20—23, Artillery Lane, Bishopsgate Street, London.—Essential oils; harmless vegetable colours for confectionery; chemicals.
CHISWICK SOFT SOAP COMPANY., Chiswick.—Soft soap.
CROWN PRESERVED COAL COMPANY, Cardiff.—"Crown" patent fuel.
DALES (JOHN T.), 287, Crystal Palace Road, London, S.E.—Dubbin.
DOVENBY COLLIERY COMPANY, Cockermouth, Cumberland.—Cannel coal.
ENGLEBERT & Co.—Englebert's lubricant.
FLEMING (A. B.) AND Co., LIMITED, 15, Whitefriars Street, London; and Caroline Park, Edinburgh.—Lubricating oils.
FIELD (J. C. AND J.), Lambeth, London.—Patent self-fitting ozokerit, spermaceti and other candles; beeswax; toilet soaps; sealing wax, &c.
GOSNELL (JOHN) & Co., London.—Brown soaps.
HAZLEHURST AND SONS, Camden Soap and Alkali Works, Runcorn.—Family and domestic soaps.
HEMINGWAY (S.) AND Co., Trafalgar Street, Bradford.—New dry soap.
JOHNSON BROTHERS, Cleveland Works, Hull; City Chambers, 65, Fenchurch Street, and 4, Railway Place, London.—Oils; greases; paints; colours; varnishes.
KEELING (D. C.) AND Co., Liverpool.—Soaps.
PRICE'S PATENT CANDLE COMPANY, LIMITED, Battersea, London; and Bromborough Pool, Liverpool.—Candles; night lights; glycerine; soaps; oils, &c.
THOMAS (JAMES L.) & Co., Exeter.—Alexandra oil.
WILSON (J. VEITCH) AND Co., Works and Head Office, 258—260, Dobbies Loan, Glasgow; branches, Manchester, Dundee, and London.—Jute batching oil; lubricating oils for steam cylinders, land and marine engines, general machinery, looms, spindles, gas and hot air engines.

LEATHER AND MANUFACTURES OF LEATHER.

ANGUS (GEO.) AND COMPANY, St. John's Works, Newcastle-upon-Tyne; Prince's Buildings, Liverpool; 13, Billiter Street, London; and Bute Docks, Cardiff.—Leather and india-rubber goods, for engineering, mining, and agricultural and general machinery purposes.
GANDY (MAURICE), 130, Queen Victoria Street, London; works, Liverpool and Baltimore (U. S. A).—Cotton belting (patented in India).
HEPBURN AND GALE, 239, Long Lane, Southwark, London.—Leather belting and laces for same.
JENKINSON (W.) AND Co., 44, London Wall, London.—Saddlery.
JONES AND ROCKE, Cambrian Leather Works, Salop Road, Wrexham.—Leather for covering rollers used in cotton spinning.
LANCASHIRE PATENT BELTING AND HOSE Co. (D. & S. J. MCMECHAN), "Wire Works" Mills, Strangeways, Manchester.—Main driving belts.
LENNAN AND SONS, 29 and 30, Dawson Street, Dublin.—Saddlery and harness.
MASON (D.) AND SONS, Bath Row, Birmingham.—Saddlery; harness; bridles; whips; machine bands; fire hose; leather buckets; laces; portmanteaux, &c.
MIDDLEMORE (WM.), Holloway Head, Birmingham.—Saddlery, mill banding, army appointments, leather.
NICHOLLS (F. V.) & Co., 2, Jermyn Street, London.—Saddlery.
RAWLINGS (S.) AND SON, South Parade Works, Frome, Somersetshire.—Leather belting and card-clothing.
TULLIS (JOHN) AND SON, St. Ann's Leather Works, John Street, Bridgeton, Glasgow.—Leather, cotton canvas, and other beltings; leather laces; fire hose and buckets, &c.
WALSH, LOVETT & Co., Birmingham, Sheffield, and London; and Commercial Buildings, Calcutta.—Leather machine belting and other leather goods for mills and mill furnishings.

COTTON, SILK, FIBRES, AND MANUFACTURES THEREFROM.

BAYNES, GILLES & Co., Newgate Street, London.—Wools; silks; embroideries; fancy work; "Penelope" yarn.

BAZLEY BROTHERS, Wellington Mills, Ancoats, Manchester.—Fine cotton yarns.

BELFAST ROPEWORK Co., Limited, Counswater, Belfast.—Ropes and lines for shipping, fishing, agricultural, and general purposes.

BIRD (R.) & Co., Crewkerne, Somerset.—Webs of all descriptions for the saddlery and upholstery trades, &c.

CARLILE (JAMES), SONS & Co., Bank End Mills, Paisley, Scotland.—Sewing cottons.

CLAYTON, MARSDENS & Co., LIMITED, Wellington Mills, Halifax.—Waste silk; specimens in various stages of progress; spun silk yarns and fabrics.

DEWHURST (JOHN) & SONS, Billevue Mills, Skipton, Yorkshire.—Sewing and crotchet cottons.

GOULD (JOB), West of England Twine Works, West Coker, Yeovil, Somerset.—Twines; cords; ropes, &c.

GRIMSTON (R. AND T.) & Co.; Clifford Mills, near Tadcaster; and Mickley, Yorks.—Shoe thread; twines; seaming and roping twines; rice threads; sheaf binding threads, &c.

HARRIS (J.) & SONS, Derwent Mills, Cockermouth (Agent at Calcutta, J. Crowder).—Linen threads for hand and machine sewing; flax and tow yarns.

JACKSON (T.) AND Co., High Street, Manchester.—Sewing thread.

LEE SPINNING COMPANY, Atherton, near Manchester.—Single, double, and polished cotton yarns.

LOSTOCK HALL SPINNING COMPANY, LIMITED, Lostock Hall Mill, near Preston, Lancashire.—Samples of cotton; cotton in process; medium and fine yarns.

MCCONNEL AND COMPANY, LIMITED, Henry Street, Ancoats, Manchester.—Cotton yarns.

MOSSES & MITCHELL, 64 and 71, Chiswell Street, London.—Vulcanised fibre.

PRESTON (W.) & SON, Leicester.—Elastic boot webs.

REDDAWAY (F.) & Co., Pendleton, Manchester.—Improved cotton machine belting for tropical climates.

WARD (ANTHONY) & Co., Albion Mills, Leek, Staffordshire.—Sewing and machine silks; embroidery and saddlery; sewing silks.

WILSON & BENTLEY, 50, St. John Street, London.—Bookbinders' cloth.

PAPERS.

BRIGGS & Co., 3 Marsden Square, Manchester.—Transferring paper for embroidery.

BROWN (WM.) & Co., 40 and 41, Old Broad Street, and 38 to 40, St. Mary Axe, London.—Papers.

DICKINSON (JOHN) & Co., 65, Old Bailey, London, E C.—Papers.

SPALDING & HODGE, 34, Cannon Street, City, London.—Hand-made papers, machine-made papers.

WATERLOW & SONS, LIMITED, 25, 26, and 27, Great Winchester Street, London.—Watermarked papers for banks, cheques, certificates, &c.

VARNISHES, CEMENTS, DYES, COLORS, &c.

ARTIST COLOR MANUFACTURING COMPANY, 27, Hatton Wall, London.—Artists' colors and materials.

BROOKS, SHOOBRIDGE & Co., Portland Cement Works, Grays, Essex.—Portland cement.

BRUNNER, MOND & Co., LD., Northwich.—Alkali, carbonate of soda.

CAPELLE AND GOTTELAND.—Stains and polish.

COPAL VARNISH COMPANY, LIMITED, 46, Bankside, London.—Varnishes for coach painters, house decorators, and others.

DEFRIES (J.) AND SONS, 147, Houndsditch, London, Paris, and 70, Bentinck Street, Calcutta—Portland cement.

DOULTON & Co., Lambeth, London.—Terra cotta for building purposes, Norman doorway plinth, balustrade and capping, string courses; window heads, terminals, &c.; blue metallic ware for copings for wall and railway platforms; stable and other pavings; string courses; channel bricks.

ENGERT & ROLFE, Barchester Street, Poplar New Town, London.—Felts for ships' sheathing under copper and under wood; roofing felts; fibrous asphalte for anti-damp course in wall.

FORDHAM (W. B.) & SONS, 36 to 40, York Road, King's Cross, London.—Emery paper, emery and glass cloth; knife powder; glue; glue powder, &c.

FRANCIS & Co., Nine Elms Wharf, Vauxhall, London; and Cliffe, Rochester, Kent.—Cement.

GILLINGHAM PORTLAND CEMENT COMPANY, LIMITED, 69, King William Street, London Bridge, London.—Cement.

GODDARD (JOSEPH), Station Street, Leicester.—Non-mercurial plate powder; furniture cream; silvering solution; chemical polishing paste; jewellers' rouge.

GOODLASS, WALL & Co., Liver Works, Liverpool.—Varnishes; paints; oils; colors.

GOSTLING (JOHN CUBITT) & Co., LIMITED, 83, Gracechurch Street, London.—Portland cement.

GRIFFITHS, BEDDOE & Co. (THE SANITARY PAINT Co.), LIMITED, 51, South John Street, Liverpool; 34, Leadenhall Street, London.—Paints; varnishes and colors.

HOCKIN, WILSON AND Co., 38, Duke Street, Manchester Square, London.—Clear essence of rennet.

HOLZAPFEL AND Co., 41, Quayside, Newcastle-on-Tyne; Mount Stuart Square, Cardiff (HOLZAPFEL AND Co.); 5, Chapel Walks, Liverpool (HOLZAPFEL AND Co.); 12, Waterloo Street, Glasgow (HOLZAPFEL AND Co.); 9, New Broad Street, London (A. C. HOLZAPFEL AND Co.).—Anticorrosive and antifouling compositions for ships' bottoms.

HOWARDS AND SONS, City Mills, Stratford, Essex.—Dyeing and coloring materials; tartar emetic; golden sulphide of antimony; borax, &c.

JOHNSON (W. W. & R.) AND SONS, Victoria Lead Works, Limehouse; and 10, Fenchurch Avenue, London.—White lead; red lead.

JONES (FREDERICK) AND Co., Perren Street, Ryland Road, Kentish Town, London.—"Silicate cotton" or "slag wool," manufactured from iron ore (for the non-conduction of heat or cold); silicate boiler covering cement; anti-incrustation boiler composition.

KEBB, TARRUCK AND Co.—Fluid enamel for varnishing wood.

KNOS (AND.) AND Co., 9, Fenchurch Avenue, London.—Swedish matches.

LEDGER, SMITH AND Co., St. Mary's Chambers, St. Mary Axe, London.—Egyptian-made cigarettes of pure Turkish tobacco (Gianaclis).

LEE (W.), SON AND Co., Snodland, Kent.—Portland cement and manufactures therefrom.

MORRIS AND GRIFFIN, Wolverhampton.—Self-polishing liquid and paste blacking: writing and copying fluids, &c.

NEWTH AND Co., 42, Percival Street, London.—Furniture polish.

NUBIAN MANUFACTURING COMPANY, 8 and 9, Hosier Lane, Snow Hill, London.—Blacking; dubbing; furniture polish, &c.

PAIN (JAMES), 121, Walworth Road, London.—Fireworks.

PILCHER (J. G. & J.) AND SONS, Morgan's Lane, Tooley Street, London.—Ground white lead; paints; colours; varnish; machinery oils.

ROBINS & Co., LD.—See Defries (J.) and Sons.

SCOLLICK (A. J.) AND Co., 27, Mincing Lane, London.—Patent steam joint mastic; mastic paint.

SILICATE PAINT COMPANY (J. B. ORR AND Co., Proprietors), Charlton, Kent; and 46, Cannon Street, London.—"Charlton white" (a substitute for white lead); "Duresco" (washable water paint); enamels; silicate paints; varnishes, painters' materials.

SKITT AND Co., 93 Summer Street, Southwark Bridge Road, London—Paints.

SMITH (GEORGE), SEN., Bank Lane Chemical Works, Clayton, near Manchester.—Anti-incrustation composition for boilers.

STEPHENS (H. C.), 191, Aldersgate, Street London.—Stains for wood.

THOMSON (T. E.) AND Co., 9, Esplanade Row, Calcutta.—Copal and carriage varnishes and stains.

TORBAY AND DART PAINT COMPANY, LIMITED, London.—Paints.

WHITEHOUSE & Co., Tipton Hall Iron and Chain Works, Tipton.—Firebricks and clay.

"WILLESDEN" PATENT WATERPROOF PAPER AND CANVAS COMPANY, LIMITED, London; 34, Cannon Street, City.—Waterproof paper houses; canvas tents.

WILSON AND Co., East London Colour Works, Jubilee Street, Mile End, London.—Colours, paints.

WINSTONE (B.) AND SONS, London.—Samples of printing inks, dry colors, and paints.

WOOD (JOHN) AND SON, 23 and 25, Queen Victoria Street, and 23, Pall Mall, London,; Manufactory: 87, Southwark Street, London.—Cigarettes; Turkish tobacco.

YORKSHIRE VARNISH COMPANY, Ripon; and 39, Upper Thames Street, London.—Varnish; paints; colours; enamels; japans.

SECTION G.—MACHINERY AND IMPLEMENTS, MEANS OF TRANSPORT, APPLIANCES AND PROCESSES USED IN THE COMMON ARTS AND INDUSTRIES, INCLUDING MODELS AND DESIGNS.

CLASSES LXXXII TO CIX.

MISCELLANEOUS.

AHMUTY & Co., 6, Church Lane, Calcutta.—A collective exhibit comprising:—

Burrell (C.) & Sons, Saint Nicholas Works, Thetford, Norfolk.—6 and 8-horse power portable engines.

Cantwell's Patent sugar-cane mills, sanitary carts, and tea boxes.

Copal Varnish Co., Limited, 46, Bankside, London.—Varnishes, etc.

Farmer, Robey Brown and Co., Trent Foundry, Gainsborough.—8-horse power portable engine; 3-horse power vertical engine.

Gillingham Portland Cement Co., Kent.—Portland cement.

Hoepburn and Gale, 239, Long Lane, Southwark, London.—Leather belting and laces.

Isaac Storey and Sons, Knott Mill Brass and Copper Works, Little Peter St., Manchester, and Cathedral Yard, Manchester.—Finished brass work for engines and boilers, steam valves and cocks, injectors, pressure gauges, whistles, etc., etc.

Pollock and MacNab, Britannia Iron Works, Hyde, near Manchester.—Lathes and drilling machines.

Turner, Naylor and Marples, Sheffield.—Joiners and engineers' tools.

ALUMINIUM CROWN METAL COMPANY, LIMITED, 34, Leadenhall Street, London.—Aluminium metals (Webster's patent).

ASQUITH (WILLIAM), Highroad Well Works, Halifax.—Self-acting slotting machine lathe; bench drilling machine.

AUSTIN AND DODSON, Cambria Works, Arundel Street, London.—Specimens of steel for springs; dies; locomotive work; octagon mining steel for shears, drills, picks, etc. Files and circular saws.

AVERY (W. AND T.), London and Birmingham.—Machines for railway stations and warehouses; machines for weighing passengers' luggage; railway trucks and waggons of any capacity; locomotive spring testers. Weighing machines for mining purposes. Registering weighing machines.

BAGNALL (W. G.), Castle Engine Works, Stafford.—Light locomotive engines; portable railways and waggons.

BAILEY & Co., (W. H.), Salford.—Hot air engine.

BALDWIN (E. P. AND W.), Wilden Iron Works, Stourport.—Tin and terné plates, sheet iron and button iron.

BAXTER (W. H.) AND Co., Central Chambers, Albion Street, Leeds.—Patent knapping motion stone breaker.

BEAMISH (GEO. H. T.), A.I.C.E., Spy Hill House. Queenstown, Ireland.—Models illustrating method of construction with concrete blocks combining general cohesion of the structure with freedom for uneven settlement of foundation. (Portion of breakwater.)

BLACKMAN AIR PROPELLER VENTILATING COMPANY, LIMITED, 17, Austin Friars, London.—The "Blackman" air propeller and ventilator.

BOLLING AND LOWE, 2, Laurence Pountney Hill, London.—Portable railway and waggons.

BOULT BROTHERS AND Co., Liverpool and Glasgow.—Baird's light-feed oil cup.

BOX AND Co., Dudley, Worcestershire, and Calcutta.—Anvils; vices; nails; rivets; locks; bolts; nuts.

BRADY (FREDERICK) AND Co., LIMITED, Fitzroy Works, 360, Euston Road, London; and Deptford, Liverpool and Glasgow.—Perforated zinc and other metals; galvanised iron and zinc goods; zinc roofs and skylights.

BRITANNIA COMPANY, Colchester.—Lathes and other appliances for turning sewing machines.

BROTHERTON (JOHN), Imperial Tube Works, Wolverhampton.—Manufacturer of iron tubes and fittings for gas, steam, and water; hydraulic tubes, tuyere tubes and coils for anvils; stocks; taps, dies; taper telegraph poles, etc., for the home and foreign markets. Sole patentee of wrought-iron lap-welded machine-made fittings. The only manufacturer of Jenning's improved patent raised joints for gas, steam, and water.

BROWN (J. B.) AND Co., 90, Cannon Street, London.—Galvanised wire netting, with improved registered salvage.

BUBN AND Co., Howrah Iron Works, Howrah, Bengal.—A collective exhibit comprising:—

Bell, Coleman & Co.'s, Glasgow, machine for refrigerating purposes, and largely used for the preservation of meat and stores, ice making, etc. The cooling house exhibited is divided into three rooms, the first room being at a temperature of 70°, the second room being at a temperature of 50°—both rooms being furnished as sitting rooms. The last or freezing room is arranged for the preservation of meats, such as beef, fowls, etc., and also contains a freezing oven for ice making purposes. The degree of temperature in this room is about 30° below Farht. The cold blast is furnished from one of Bell Coleman's machines, and is designated as a 10,000 machine, and is driven from an upright boiler of tubular type.

Clayton and Shuttleworth's portable engines.

Garret & Co., Suffolk.—Compound portable and semi-portable engines. Specimens of flanged boiler plates.

Glen, Ross & Co., Glasgow.—Steam hammers (Rigby's patent).

Hornsby and Son, Lincolnshire.—Portable engines.

John and Edwin Wright, Birmingham.—Celebrated improved steel wire ropes.

Leroy & Co., London.—Samples of non-conducting composition for preventing loss of steam, by condensation in long steam pipes.

Merryweather & Co., London—Portable fire engines, pumps and samples of different kinds of fire hose.

Pulsometer Engineering Co., London.—Deane pumps and filters. Pulsometer pumps.

BURRELL (C.) AND SONS, Thetford, Norfolk—Portable engines.

CAMMELL (CHARLES) AND COMPANY, LIMITED, Cyclops Steel and Iron Works, Sheffield; Derwent Iron and Steel Works, Workington; Yorkshire Steel and Iron Works, Penistone; Grimesthorpe Steel, Tyre, and Spring Works, Sheffield; Old and New Oaks Colleries, Barnsley.—Steel, files, springs, buffers, tyres; forgings in steel; armour, boiler, ship, and frame plates, &c.

CARRINGTON (W.), 9, Fenchurch Avenue, London.—Wire rope tramway.

CARTER (J. H.), 82, Mark Lane, London.—Disintegrating machine for grinding, crushing, and other purposes.

CHATWIN (THOMAS), Victoria Works, Gt. Tindal Street, Birmingham.—Stocks, dies and taps; hand power screwing machines; rimers; twist drills; standard cylindrical gauges; ratchet braces; clyburn and budding and quickly adjusted spanners; tube cutters; patent tube cutter and wrench combined; pipe wrenches; gas pipe tongs and pliers, &c.

CHATWOOD'S PATENT SAFE AND LOCK CO., LIMITED, London, Liverpool, Manchester, and Leeds, Works; Bolton, Lancashire.—Fire and burglar proof safes; deed and cash boxes; locks.

CLAYTON AND SHUTTLEWORTH, Lincoln.—Portable steam engines.

COALBROOKDALE CO., LIMITED. Works, Coalbrookdale, Shropshire; Show rooms, London, 43, Holborn Viaduct; Bristol, 82, Castle Street; Agencies, London, 118, Cannon Street; Liverpool, 19, Sweeting Street; Manchester, 29, Princess Street.—Castings and works in iron, bronze, aluminium, and other metals.

COCHRANE (JOHN), Barrhead, near Glasgow.—Steam engines; steam hammers.

COCHRANE & CO., Birkenhead.—Boilers.

COLVILLE (DAVID), Dalzell Steel Works, Motherwell, Scotland.—Steel plates and bars.

CRADOCK (GEORGE) AND CO., Wakefield.—Steel and iron wire ropes for colliery and railway purposes, tramway cars, transmission of power capstans, hawsers and cranes; aerial railways and bridges; steam cultivation ropes; model of foot bridge for hill streams in India, &c.

CROSSLEY BROTHERS, LD., Openshaw, near Manchester.—Otto gas engines.

CRYSTAL PORCELAIN POTTERY CO., LIMITED, Cobridge, Stoke-on-Trent, Staffordshire.—Telegraphic insulators.

DANIELL (S. A.), Edward Street, Birmingham.—Screw, stocks, dies, taps, tube cutters, ratchet braces, &c.

DAVEY, PAXMAN & Co., Standard Iron Works, Colchester, and 139, Queen Victoria Street, London.—Compound engines; horizontal fixed engines; ordinary portable and semi-portable engines; high pressure portable and semi-portable engines; semi-fixed engines and boilers combined; vertical engines and boilers.

DICK KERR, & Co., 101, Leadenhall Street, London, and Glasgow.—Light railway and tram materials.

DICKSON, BROS. & Co., Waverley Works, Sheffield.—Files, tools, steel.

DISTURNAL (R.) & Co., Wednesbury.—Axles.

DIXON (ALFRED A.), 24, Queen Victoria Street.—Injector, ejector, fish plates, safety valves.

DOULTON & Co., Lambeth, London.—Plumbago and fire clay crucibles, furnaces, melting pots and all kinds of pottery for melting, assaying, and other operations, condensing worms, acid pumps, retorts, mixing pans, acid jars, receivers, acid cocks, pans, bowls, percolators, pottery for chemical purposes, insulators, porous battery cells, electric wire, underground protectors, &c.

DUNCAN BROTHERS, 32, Queen Victoria Street, London; and 79, Commercial Street, Dundee.—Photographs of machinery.

EAGLE EDGE TOOL COMPANY, Wolverhampton.—Edge tools, &c.

EAST YORKSHIRE CART AND WAGGON COMPANY, LIMITED, Beverley, Yorkshire — Iron wheels and axles.

EASTERBROOK, ALLCARD & WILD, Albert Works, Sheffield.—Engineer's hand tools and railway tools (models).

EASTON AND ANDERSON, London.—Appold's centrifugal pumps.

EDWARDS (WILLIAM) & SON, Griffin Works, Wolverhampton; and 27 and 28, King William Street, London Bridge, London.—Edge tools, spades, shovels, hammers, axes, adzes, pick-axes, contractor's tools, estate tools, mining tools, plantation hoes.

ENGLISH AND AUSTRALIAN COPPER COMPANY.—Copper ingots.

EVANS (JOSEPH) & SON, Heath Town Works, and Culwell Foundry, Wolverhampton.—Pumps.

EVERITT (ALLEN) & SONS, Kingston Metal Works, Birmingham.—Brass and copper locomotive, marine gas and steam tubes, brass and copper wire, rolled metals, wrought copper nails, rivets, &c.

EXTON & Co., Hercules Works, Chippenham, Wiltshire. London office, 141, Queen Victoria Street, City.—Light steel pipes for gas, water, steam, mining, pumping, pressing, irrigation, ventilation, &c.

FARMER, ROBEY, BROWN & Co., LIMITED, Trent Foundry, Gainsborough.—Portable steam engine, independent vertical steam engine and boiler.

FELTEN & GUILLEAUME, 101, Leadenhall Street, London, and Carlswerk, Mulheim-on-the-Rhine, Germany.—Iron and steel wire, galvanised wire, strand ropes, &c.

FOWLER (JOHN) & Co., Steam Plough and Locomotive Works, Leeds, and 28, Cornhill, London.—Portable railway and rolling-stock (including 5-inch locomotive); 10-H.P. compound semi-portable engine; 8-H.P. high-wheeled traction engine.

FRASER (A. B.) & Co.—Fresh water condensers and safety valves.

GARRET (RICHARD) AND SONS, Leiston, Suffolk.—Compound portable and semi-portable steam engines.

GILBERT GILKES & Co., Kendal, Cumberland.—Vortex turbine water wheel (model).

GOODBY (SAMUEL), SENR., Herrick Street, Wolverhampton.—Engineer's and gas-fitter's stocks and dies; joiner's bench, sash, and flooring cramps, &c.

GREEN (E.) AND SON, 14, St. Ann's Square, Manchester; Works, Wakefield.—Fuel economiser.

GREENWOOD & BAILEY, Albion Works, Leeds.—Sun platen printing machine, &c.

GUTTA PERCHA COMPANY (Branch of the TELEGRAPH CONSTRUCTION AND MAINTENANCE COMPANY, LIMITED), 18 Wharf Road, City Road, London.—Copper conductors (strand and solid) covered with gutta percha, as used for submarine telegraph cables, underground lines, both telegraphic and telephonic, electric lights leads, battery, bell and house connecting wires, &c.; sheet gutta percha for making joints, and other materials used in the manufacture and working of insulated wires; Willoughby Smith's patent joints for subterrannean and telegraph wires, &c.

GWYNNE (J. & H.), London—10″ invincible centrifugal pump with engine complete; 8″ centrifugal pump with air exhauster and clock valve; portable centrifugal pump.

HADFIELD'S STEEL FOUNDRY COMPANY, Hecla Steel Casting Works, Attercliffe, Sheffield.—Cast steel castings for locomotive, marine, fixed, and other engines; crushing and stamping machinery; dredgers; cast steel wheels, axles, &c., for railways, tramways, collieries, gold, tin, lead, and copper mines, and quarries.

HADLEY BROTHERS, Nail Works, Eyre Street, Birmingham.—Cut and wire nails of every description in iron and steel.

HAGGIE BROTHERS, Gateshead-on-Tyne.—Wire ropes for collieries, fencing and shipping.

HARDY PATENT PICK COMPANY., LIMITED, Mining Tool Works, Sheffield.—Railway, mining, and engineering tools.

HARPER & Co., Aberdeen.—Model of wire suspension foot-bridge.

HATHERN & Co., 22, Charing Cross, London.—Hydraulic tunnel car; patent "Eclipse" rock drills; screw column; hydraulic column; tripods; length of hosepipe and couplings; drill bits; patent reliance air compressor.

HEATON (RALPH) AND SONS, The Mint, Birmingham.—Coins; medals; tokens; brass and copper tubes; sheets; stampings; spun work; wire.

HENDERSON (GEORGE) & Co.—Barb wire fencing.

HEPTON (WILLIAM) & SONS, The Yorkshire Brass and Copper Works, Leeds.—Brass fittings for gas, steam, and water; copper work for sugar and oil refiners and engineers.

HINDLEY (E. S.), Dourton, Dorset.—Steam engines, saw benches, pumps.

HOLT, BOX & Co., Dudley, Worcestershire.—Rim locks and latches, mortice locks and latches; draw back and plate locks, rim and mortice dead locks; Japanned and galvanised padlocks; iron and mortice *gate* locks; night latches; lever bramah, and combination latches; brass and iron trunk locks; brass file, cupboard, chest, lever pad, piano, bureau, wardrobe, letter case, carpet and leather bag; lever bramah detector, and Barron's patent locks; Norfolk, Suffolk and Lancastrian latches; T and other hinges, &c.

HORNSBY (RICHARD) & SONS, LIMITED, Spittlegate Iron Works, Grantham, Lincolnshire.—Portable engines.

HORSE NAIL COMPANY (H. P.) LIMITED., New Road, Wandsworth.—H. P. horse-nails.

HOWORTH (JAMES), Victoria Works, Farnworth, near Manchester; and 147, Queen Victoria Street, London.—Patent revolving radial screw ventilators—self-acting or driven by motive power—for public establishments, infirmaries, places of worship, barracks, schools, prisons, theatres, stables, cattle and sheep sheds, engine and boiler houses.

HUDSON (ROBERT), Gildersome Foundry, near Leeds.—Steel trucks; steel wheelbarrows; steel casks; steel forges; steel portable railway, &c.

HUMPHREYS (J. C.), Albert Gate, Hyde Park, London.—Iron buildings.

HUMPHRIES (E.), Pershore.—Portable steam engine; vertical engine and boiler.

HUNT & MITTON, Oozell Street, North, Birmingham.—Engine boiler, water and fire fittings; patent lubricators and hose couplings.

JESSOP & Co., Calcutta.—Collective exhibit of steam hydraulic gauges; boiler fittings; cocks; injectors, etc., etc.

JOHNSON (W. W. AND R.) AND SONS, 737, Commercial Road East, Lime-house; and 10, Fenchurch Avenue, London.—Tea lead.

JONES BROS., LIMITED, Ayrton Rolling Mills and Nail Works, Middlesborough-on-Tees.—Iron and steel boiler, bridge, ship, and merchantable sheets and plates; iron and steel nails.

KENNEDY'S PATENT WATER METER COMPANY, LIMITED, Kilmarnock, Scotland.—Water meter model with glass cylinders; sectional photograph.

KERR, TARRUCK AND Co.—Enamelled iron sheets for roofing.

KIRKSTALL FORGE Co., Kirkstall Forge, Leeds.—Patent rolled shafting in iron and steel; best Yorkshire (Kirkstall) bar iron; forgings of all descriptions in iron or steel; Butler's patent frictional coupling; patent mail axles; Smith's anvils (warranted).

KIRSON & Co., Leeds.—Tramway engines.

KIRLEW AND Co., Manchester.—Patent linen belting; patent belting fasteners; Asbestos packing; Asbestos millboard.

LAWRENCE & PORTER.—Centrifugal pumps.

LEE AND HUNT, Arkwright Works, Nottingham.—Screw-cutting, sliding and surfacing lathes; foot lathes; planing, shaping, and drilling machines; Arkwright combined engine and boiler.

LE GRAND AND SUTCLIFF, Magdala Works, Bunhill Row, London.—Patent "Abyssinia" tube well and pumps, with improved driving apparatus.

LINDSAY (W. H.), Paddington Iron Works, 14, South Side, Paddington, Bassin, London.—Flooring for road and railway bridges.

LLEWELLIN'S PATENT MACHINE COMPANY., Bristol and Glasgow.—Time-checking machine for workmen.

LLOYD AND LLOYD, Albion Tube Works, Birmingham; and Coomb's Wood Tube Works, Halesowen, near Birmingham.—Wrought iron tubes and fittings.

LORD (J. C. AND W.), 142, Great Charles Street, Birmingham.—Iron safes; tea garden tools; carriage lamps; lanterns; locks; hardware, &c.

LOUDON BROTHERS, III, Bothwell Street, and 80, Mains Street, Glasgow; and 156, Upper Thames Street, London.—Machine tools; steam pumps; mechanical fittings.

LOW (DAVID) (c.o. MRS. ROBERTSON, George Street, Blairgowrie, Scotland).—Engineers' hand tools of cast steel.

MACDERMOTT (GLOVER), Albert Iron Works, London.—Hand labor patent percussive rock perforator.

MACFARLANE (WALTER) AND Co., Saracen Foundry, Glasgow.—Castings.

MACLELLAN (P. AND W.), Clutha Iron Works, Glasgow; Chief Offices and Warehouses, 129, Trongate, Glasgow; 7 and 8, Great Winchester Street, London.—Engineers' tools (hand and machine); engineers' and contractors' furnishings; steam fittings; railway fittings; chains; rock drills; iron roofing; fish plates, &c.

MARSDEN (H. E.), Soho Foundry, Leeds.—Stone breaker and ore crusher.

MARSHALL, SONS AND Co., LIMITED, Britannia Iron Works, Gainsborough; and Marshall's Buildings, 79, Farringdon Road, London.—Fixed steam engines; portable steam engines; sawing machinery; 8-H.P. loco multitubular boiler for tea gardens; 10-H.P. portable engine with automatic expansion; 4-H.P. portable engine; 6-H.P. semi-portable steam engine; 6-H.P. vertical engine without boiler; 2½-H.P. vertical engine and boiler complete; No. 2 circular saw bench; No. 4 self-acting circular saw bench.

MASSEY (B. AND S.), Openshaw, Manchester.—Steam hammer.

MCILWRAITH & Co., Glasgow.—Paulins and railway carriage roof coverings.

MCKENZIE AND HOLLAND, Vulcan Iron Works, Worcester, England.—Working models illustrating the interlocking and working of points, signals, and level crossing gates on railways.

MILLS (EXORS. of the late JAMES), Bredbury Steel Works, near Stockport.—Headed or plain steel keys, taper pins, and split steel taper pins for locomotives.

MILNERS' SAFE COMPANY, LIMITED, 28, Finsbury Pavement, London; Phœnix Safe Works, and 8 Lord Street, Liverpool; and Market Street, Manchester.—Fire and burglar proof diamond and jewelry safes; strong rooms; safe deposits, &c.

MONCRIEFF (JOHN), North British Glass Works, Perth, Scotland.—Water gauge glasses for steam boilers.

MOORE (JNO.) & Co., Manchester.—Self-acting slide surfacing and screw-cutting gap lathe.

MORETON (H.) AND Co., 90, Cannon Street, London.—The "Wallace" entrenching tools.

MUMFORD (A. G.), Colchester.—Donkey pumps, deep-well 3-barrel pumps.

NASMYTH, WILSON AND Co., LIMITED, Bridgewater Foundry, Patricroft, near Manchester.—Steam engine for hydraulic presses; models of hydraulic presses; steam hammer.

NETTLEFOLDS, LIMITED, Birmingham; and Wellington, Salop.—Bar and rod iron; rolled and drawn fencing wire; fencing staples; wire nails, &c.

NEWALL (R. S.) AND Co., Gateshead-on-Tyne.—Wire ropes; lightning conductors; iron, steel, and copper cores.

NEWLAND (E.) & Co., Coventry.—Horizontal high pressure steam engines.

NEWTON (C.) AND Co., Coventry.—Steam engines.

OWENS (J.) & Co., London.—Treble brass barrel pump with engine frame; double brass pump for hand power.

PATENT NUT AND BOLT COMPANY, LIMITED, London Works, near Birmingham; Stour Valley Works, West Bromwich Cwm Bran Works, Blast Furnaces

and Colliery, near Newport, Monmouthshire.—Bolts; nuts; rivets; coach screws; washers; telegraphic iron work; set screws, &c.

PATENT TRAM-MATERIALS CO., Limited, 3, Westminster Chambers, Westminster, London.—Models of permanent way for street tramways and light railways, "channel rail" system.

PATTERSON & COOPER, London.—Electrical and telephonic appliances.

PEACE (W. K. AND C.), Eagle Works, Sheffield.—Files; steel; edge tools; hammers; engineers' tools.

PEARSON AND KNOWLES COAL AND IRON CO., LIMITED (The), Dallam and Bewsey Iron Works, Warrington; Spring, Ince Hall, and Hindley Hall Collieries, Wigan.—Bars, hoops, sheets, plates, and wire rods in iron and steel; general engineering work.

PENMAN & Co., Glasgow.—Lancashire and Cornish steam boilers.

PENNYCOOK PATENT GLAZING AND ENGINEERING COMPANY, LIMITED., 58, Renfield Street, Glasgow, and 57, Chancery Lane, London.—Patent system of glazing without putty.

PERKS (J.) AND SONS, Monmore Green Works, Wolverhampton.—Edge tools; pickaxes; spades; shovels; axes; adzes; railway tools.

PLAYER (W. J. J.), Lionel Street, Birmingham.—Forging hammer, bench planishing hammer.

POLLOCK AND MACNAB, Britannia Iron Works, Hyde, near Manchester.—Lathes; drilling machines.

POTTER (J. W.).—Wire gauges.

PRICE (GEORGE), Cleveland Safe and Iron Works, Wolverhampton.—Steel and iron safes and locks.

PRIESTMAN BROS., 52, Queen Victoria Street, London.—Dredger, excavator, and elevator.

PULSOMETER ENGINEERING COMPANY, London.—Pulsometer pumps.

RAMSDEN, CAMM AND Co., Brighouse, Yorkshire.—Iron and steel wire, telegraph and telephone wire.

RANSOMES, SIMS AND JEFFRIES, LIMITED, Ipswich and London.—Portable steam engine arranged for straw fuel.

RAWSON BROS., Carver Street, Sheffield—Tools.

READING IRON WORKS, LIMITED, Reading.—Steam engine and nozzle boiler, bullock gears, wrought-iron split pulleys.

REYNOLDS (F. W.) AND Co., Acorn Works, Blackfriars, London,—Machinery for wood working, &c., engines.

REYNOLDS (JOHN) AND SONS, "Crown" Cut Nail Works, Birmingham.—Cut nails and tacks.

RICHARDS AND ATKINSON, Bank Street, Royal Exchange, Manchester,—Light wood working machinery.

RICHARD (THEO.) AND Co.—Lamps, edge tools, &c.

ROBEY & Co., Lincoln.—20-H.P. and 10-H.P. portable engines; 4-H.P. vertical engine boiler; single corn grinding mill, improved double blast; patent iron-trained thrashing machine.

ROBINSON (THOMAS) AND SON, LIMITED, Rochdale.—Wood-cutting machinery; steam engine.

RUSSELL (JOHN) AND Co., Limited, 145, Queen Victoria Street, London.—Tubes for boilers, chandeliers and gas fittings, gun metal cocks, valves, and sanitary brass goods.

RUSTON, PROCTOR, AND Co., Sheaf Iron Works, Lincoln.—Portable engines, semi-fixed compound engine, horizontal engine, centrifugal pumps, saw bench with boring table.

RYLANDS BROTHERS, LIMITED, Warrington.—Wire manufactures.

SCHAFFER AND BUDENBERG, 1, South Gate Manchester.—Valves, injectors, &c.

SCOTT BROTHERS, West Mount Iron Works, Halifax.—Self-acting sliding, surfacing, and screw-cutting lathe, vertical pillar drilling machine, power-geared slotting machine, single standard steam hammer.

SHANKS (ALEXANDER) AND SONS, Dens Iron Works, Arbroath, Scotland, and 27, Leadenhall Street, London.—Steam engines and boilers.

SHARP, STEWART AND CO., LIMITED, Manchester.—Machine tools.

SHELDON (EDWARD) & Co., Canon Foundry, Deepfield.—Safes.

SINCLAIR (JAMES), 104, Leadenhall Street, London; and Cathedral Steps, Manchester.—Chemical fire engines, &c.

SKIDMORE (H. P.), Atlas Tube Works, Netherton, near Dudley.—Tubes and fittings for gas, steam, water boiler locomotives and sanitary purposes, stocks, taps, dies, and other smiths' tools.

SMITH (GEORGE) AND CO., Sun Foundry, Glasgow.—Art metal work, iron foundry, architectural and sanitary engineering work.

SMITH AND MCLEAN, Clyde Galvanising Works, Govan Road, Glasgow; Gartcosh Rolling Mills, near Coatbridge, Scotland.—Galvanised corrugated iron.

SORBY (I.), now TURNER, NAYLOR, AND MARPLES, The Northern Tool Works, Sheffield.—Edge tools, engineers' tools, joiners' tools, planes, hammers, &c.

SORBY (ROBERT) AND SONS, Sheffield.—Saws, edge tools, steel files, joiners' tools, &c.

STIFF (JAMES) AND SONS, London Pottery, Lambeth, London.—Battery jars and telegraph insulators of all kinds in vitrified stoneware; also porous cells, cylinders and plates of varying degrees of resistance (porosity) to suit every kind of battery.

STOBER (ISAAC) & SONS, Knott Mill, Manchester—Finished brass work.

STOREY (J.), SON, POLLOCK AND MCNAB.—Brass fittings; lathes; drilling machines.

TANN (JOHN), 11, Newgate Street, London.—Fire and burglar resisting safes; locks, latches; cash, deed, and despatch boxes.

TAYLOR BROTHERS, Adelaide Works, Sheffield.—Saws, files, steel, tools for wood-working, and paper-making machinery; sugarcane knives, chaff knives; saw-mill requisites, &c. Specialities: patent perforated saws, guide-lined circular and other improved saws.

TELEGRAPH CONSTRUCTION AND MAINTENANCE COMPANY, LIMITED, Offices, 38, Old Broad Street, London; Manufactories, Wharf Road and City Road, and East Greenwich.—Submarine telegraph cable; gutta percha manufactures.

THOMPSON AND CO., 85, Gracechurch Street, London.—Patent ship sheathing; enamel roofing.

THOMSON (T. E.) & Co., 9, Esplanade Row, Calcutta.—Easton and Anderson's patent 8 and 10-inch Appold centrifugal pumps. The 10-inch pump driven by a Clayton Shuttleworth's 8-H. P. patent portable steam engine works the waterfall at the tank south of the museum. Tangye's "Special" direct acting steam pump with vertical cross tube boiler. Wilcox and Gibbs' automatic silent sewing machines. Joiners' and carpenters' tools, edge tools, Lancashire tools; mining tools, files, spring balances and weighing appliances; door locks and latches with furniture; amateur's turning lathe and fret machine.

THOMSON, STERNE & Co., Glasgow.—Emery tool grinder.

THWAITES BROTHERS (LATE THWAITES AND CARBUTT), Vulcan Iron Works, Bradford, Yorkshire.—Steam hammers, engines, Root's patent blower and exhauster, blacksmith's fire; "Vulcan" portable forge, &c.

TURNER (E. R. & F.), St. Peter's Iron Works, Ipswich.—Vertical engine and boiler; corn-grinding mills and corn seed and malt crushers.

TURNER, NAYLOR AND MARPLES (LATE SORBY AND TURNER), The Northern Tool Works, Sheffield.—Edge tools, engineers' tools, joiners' tools; planes, hammers, &c., stocks and dyes.

TYLER (HAYWARD) AND COMPANY, 84 and 85, Upper Whitecross Street, London.—Fire fittings, pumps as supplied to the principal Indian railways, engine and boiler; general brasswork for houses.

TYLOR (J.) AND SONS, 2, Newgate Street, London.—Diving apparatus, hot air engines, electric lighting, pumps, fire-engines, brass and gun metal valves and fittings, water meters, &c.

TYZACK (SAMUEL) AND CO., Monkwearmouth Iron Works, Sunderland.—Manufactured iron for shipbuilding, engineering, and other purposes.

UNITED ASBESTOS COMPANY, LIMITED, London.—Patent woven Asbestos; specimens of Asbestos millboard for making all kinds of steam, water and air joints.

WALSH, LOVETT AND CO., Birmingham, Sheffield, and London; and Commercial Buildings, Calcutta.—Boilers and engines, bridges, sections of rolled girders, smiths' forges, Root's blower, bellows, stocks and dies, lifting tackle, mill furnishings, iron safes.

WARNER (JOHN) AND SONS, Crescent Foundry, Cripplegate, London; and Foundry Works, Walton-on-Naze, Essex.—Hydraulic and pumping machinery, steam engines, wind mills, cattle gears.

WEST CUMBERLAND IRON AND STEEL COMPANY, LIMITED, Workington.—Materials used and products obtained in the manufacture of Bessemer pig iron; *Spiegleisen*; steel rails; plates; steel castings.

WHEELER AND WILSON, London.—Sewing machines.

WHITECROSS WIRE AND IRON COMPANY, LIMITED, Warrington, Lancashire.—Galvanised wire, rolled and drawn iron and steel wires, telegraph and telephone wires, galvanised stand, &c.

WHITEHEAD (JOHN) AND CO., Albert Works, Proston.—Lever press for bricks and tiles.

WHITEHOUSE AND CO., Tipton Hall Works, Tipton, Staffordshire.—Anchors, chains, galvanised sheets, lubricators, &c.

WHITFIELD (F.) & Co. (Proprietors of the Sicker Safe Co.), Viaduct Works, Oxford Street, Birmingham.—The "Sicker" and other safes.

WILSON (A.) & Co., London.—No. 4, 8, 10, Vauxhall steam donkey pumps; Excelsior steam pump; 3 pumps.

WITT (GEORGE PAWSEY), 30, Mark Lane, London.—Steam engines; boilers.

YATES (JOHN) & Co., Pritchett Street Works, Birmingham, and Exchange Works, Aston Manor, Birmingham.—Edge-tools, plantation hoes, axes, adzes, picks, hatchets, matchets, cast steel forks, spades, shovels, trowels, augers, plane, irons, hammers, carpenters' tools, ship scrapers, caulking irons.

NAVIGATION.

BERTHON BOAT COMPANY, LIMITED, Aldersgate Street, London; Works, Romsey, Hants.—Folding portable boats and lifeboats.

THOMSON (J. & J.), Glasgow—Gladstone, Wyllie & Co., Calcutta, Agents to the "City" Line Steamers. A model of the engines of the S.S. "City of Calcutta," 3,826 tons register, 400 feet long, built by C. Cornell & Co., Glasgow, in 1881 and of S.S. "City of Cambridge." Owners, G. Smith & Sons, Glasgow.

GREEN (F.) & Co., 13, Fenchurch Avenue, London.—Model of ship.

HENDERSON BROTHERS, Union Street, Glasgow.—Model of S.S. "City of Glasgow."

SMITH (GEORGE) & Co., Sun Foundry, Glasgow.—Model of S.S. "City of Calcutta."

YARROW & Co., Isle of Dogs, Poplar, London.—Steamer for Indian river navigation (model and designs).

CARRIAGES, VEHICLES, &c.

ADAMS AND RICHARDS, Bridge Street, Wednesbury.—Coach and waggon axles, springs and bolts.

ATKINSON & PHILIPSON, Northumberland Carriage Manufactory, 27, Pilgrim Street, Newcastle-upon-Tyne.—Carriage and harness.

BRISTOL WAGGON WORKS CO., LIMITED, Bristol.—"Prince of Wales" Croydon car, Parisian phaeton.

COVENTRY MACHINISTS' CO., LIMITED, Coventry.—*Bicycles; tricycles.*

HILLMAN, HERBERT & COOPER, Premier Works, Coventry.—*Bicycles; tricycles.*

HOWES & BURLEY, Bishop Street, Birmingham.—Patent hidden socket carriage lamps.
MARSHALL, SANDERS & Co., Aston Coach Iron Works, Wharf Road, Birmingham —General coach ironware.
MARSTON (JOHN) & Co., Bradford Street, Birmingham.—Patent imperial brougham "hansom" cab.
MAYNARD, HARRIS & Co., 126 and 127, Leadenhall Street, London.—Bicycles, tricycles.
MCEWEN & Co., Abbey Road Works, Stirling, Scotland.—Perambulators; bed chairs.
MCNAUGHT & SMITH, Worcester, Liverpool, and 10, Park Lane, London.—Landaus; harness.
NEALE (JAMES) AND SON, 68, Graham Street, Birmingham.—Carriage lamps; coach furniture.
OFFORD (JOSEPH) & SONS, 67, George Street, Portman Square, London.—Landau, Victoria.
ROGERS (HENRY), SONS & Co., Wolverhampton.—Carriage axles and springs.
RUCKER (M. D.) & Co., Letchford Buildings, Bethnal Green, London.—Bicycles; tricycles.
SELBY (FREDERIC) & Co., Longmore Street Works, Birmingham.—Carriage and cart axles; springs, ironwork, carriage lamps; general coach goods in metal.
SINGER & Co., Coventry.—Bicycles and tricycles.
SPARKBROOK MANUFACTURING Co., LIMITED.—Coventry tricycles.
THOMSON (T. E.) & Co., 9, Esplanade Row, Calcutta.—Rudge's bicycles and tricycles.
VEZEY & Co., Bath, Somersetshire.—Victoria, with patent self-acting hood, stanhope phaeton with shifting head; dog cart, with patent fulcrum to avoid knee motion.

PRINTING AND PAPER MACHINERY.

FIGGINS (V. & J.), Clerkenwell, London.—Printing type.
GREENWOOD & BATLEY, Albion Works, Leeds.—Sun patent platen printing machine.
HOPKINSON & COPE, London.—Super-royal genuine Albion printing press, fitted ready for use; a 20-inch treadle perfecting machine; super-royal cylindrical ink table with roller and mould complete.
ULLMERS (FREDERICK), Cross Street, Farringdon Road, London.—Printing and paper cutting machinery.
WINSTONE (B.) SONS, London.—A lithographic press fitted with stone and material ready for use.

SPINNING, WEAVING, LEATHER MACHINERY.

AVERY (W & T.), London and Birmingham.—Weighing machines for chemical works, tanneries, and hide and skin markets.
DICKINSON (WILLIAM) & SONS, Phœnix Iron Works, Blackburn.—Weaving machinery.
HARDING (T. B.) AND SON, Tower Works, Leeds.—Wood, lags and filleting for jute cards and cotton waste openers, &c., steel pins for cards, gills, and hackles, counters and speed indicators for engines and other machinery.
HUXHAM & BROWNS, Exeter.—Tanners' machinery; belt-making machinery.
IRVINE & SELLERS, Preston and Liverpool.—Bobbins and shuttles used in spinning and weaving cotton, flax, silk, wool, &c.
LAW (SAMUEL) & SONS, Moorland Mills, Cleckheaton, Yorkshire.—Cotton, woollen, and silk card clothing, general mill furnishing.
MOLINIER (CHARLES) & Co., LIMITED, 52, St. Mary Axe, London.—Machinery for dressing and manufacturing leather.
RAWLINGS (S.) & SON, South Parade Works, Frome, Somersetshire.—Card clothing.

WILSON BROTHERS, Cornholme Mills, Todmorden, and 14, Market Place, Manchester.—Bobbins, tubes, and skewers, for spinning and manufacturing cotton and other fibres.

FREEZING, BOTTLING, SODA WATER MACHINERY.

ATMOSPHERIC CHURN COMPANY, 119, New Bond Street, London.—Ice freezing machines and refrigerators.

BARNETT AND FOSTER, "Niagara" Works, 26, Eagle Wharf Road, London.—Soda water machines, filling machines, patent bottles, syphon bottles.

BRATBY AND HINCHLIFFE, Sandford Street, Ancoats, Manchester.—Soda water machinery and appliances, bottling machines, packing cases.

BRITISH SYPHON MANUFACTURING COMPANY (Eugster and Koertgen, Proprietors), 2, Gresham Buildings, Basinghall Street, London.—Syphons and seltzogenes.

GIFFARD PATENT FREEZING CO.—One 9,000-feet cold air ice-making machine with ice chamber complete.

HALL (J. AND E.), 23, St. Swithin's Lane, London.—Cold air machine for preserving food on passenger ships.

HAYWORTH (JAMES), Victoria Works, Farnworth, near Manchester.—Hayworth's patent revolving archimedian and radial screw ventilators.

PIGGOTT (T.) & Co., Birmingham.—Ice-making machinery, ether principle.

SCHREIBER (FREDERICK WILLIAM), 5, Bond Court, Walbrook, London.—Metallic capsules, tinfoil, capsuling machines, corking machines.

TYLER (HAYWARD) AND COMPANY, 84 and 85, Upper Whitecross Street, London.—Machinery for making and bottling soda and other ærated waters, &c.

TYLOR (J.) AND SONS, 2, Newgate Street, London.—Soda water machinery, diving apparatus; hot air engines, pumps and well engines, fire-engines, fittings for waterworks, mains, brass and gun metal valves, patent water meters, patent automatic waste-detecting and registering water meters.

WALSH, LOVETT AND CO., Birmingham, Sheffield, and London, and Commercial Buildings, Calcutta.—Ice-making machinery.

WEST (H. J.) AND CO., Southwark Bridge Road, London.—Ice-making machine

MEANS OF PRODUCING ARTIFICIAL LIGHT, FIRE-ENGINES, &c.

EWART (JOHN).—Means of producing artificial light.

HARPER AND MOORES, Lower Delph Fire Clay and Brick Works, Stourbridge.—Gas retorts, fire bricks, fire clays, plumbago, and fire clay crucibles, &c.

HARRISON (GEORGE KING), The Lye Fire Clay and Brick Works, Stourbridge.—Retorts, ovens, bricks, &c., used in gas making.

MULLER (H. L.), 22, Mary Ann Street, Birmingham.—"Alpha" gas-making machine.

PENNYCOOK PATENT GLAZING AND ENGINEERING CO., LIMITED, 58, Renfield Street, Glasgow, and 57, Chancery Lane, London.—Patent system of glazing without putty.

RICHARD (THEO.) & Co.—Lamps, &c.

ROSE, DOWNS AND THOMPSON, Old Foundry, Hull.—Small oil mill with engine.

SPONG AND CO., 249, High Holborn, London.—Pneumatic fire extinguisher.

STONE (JOHN) & Co., London.—Portable fire engine pump with hose and couplings complete.

TANGYE BROS., London.—Holman's portable fire engine and pump complete.

WARNER (J.) & SON, Crescent Foundry, Cripplegate, London.—Fire engines water temperator.

ARMS, AMMUNITION, &c.

ELEY BROTHERS, LIMITED, 254, Gray's Inn Road, London.—Ammunition, sporting and military cartridges, percussion caps, gun waddings.

GIBBS (GEORGE), 29, Corn Street, Bristol—First hammerless gun invented.
GREENER (W. W.), St Mary's Works, Birmingham.—Guns and rifles.
HALL (JOHN) AND SONS, 79, Cannon Street, London.—Gunpowder.
HENRY (ALEXANDER), 12, South Saint Andrew Street, Edinburgh, and 118, Pall Mall, London.—Sporting guns and rifles, military and target rifles, pistols, &c.
HOLLIS (ISAAC) AND SONS, 5 to 11, Weaman Row, St. Mary's Square, Birmingham.—Rifles, guns, revolvers.
HOLLAND AND HOLLAND, 98, New Bond Street, London.—Sporting guns and rifles.
JAMES (ENOS) & Co., Loveday Street, St. Mary's Square, Birmingham.—Guns, rifles.
JOICE (FREDERICK) AND Co., 57, Upper Thames Street, London and Waltham.—Sporting ammunition.
KENNALL GUNPOWDER COMPANY, Kennall Vale, Penrhyn, Cornwall.—Gunpowder in its several stages of manufacture.
KERR (JAMES), 118, Queen Victoria Street, London.—Arms.
KYNOCH AND Co., Lion Works, Witton, near Birmingham. Depôts 7 & 9, St. Bride's Street, Ludgate Circus, London, and 14, Whittall Street, Birmingham. Rolling Mills, Water Street, Birmingham. Agency in Calcutta, Reutiers and Co., 5, Mission Row, in Bombay, Heptoola, Shaik, Adams & Co., 6, Apollo Street, Fort.—Military and sporting ammunition.
LANCASTER (ALFRED), 27, South Audley Street, Grosvenor Square, London.—Sporting guns and rifles, patent automatic cartridge extracting and hammerless guns, &c.
LANCASTER (CHARLES), 151, New Bond Street, London.—Guns, rifles, pistols.
LEWIS (G. E.), 32 and 33, Lower Loveday Street, Birmingham.—Rifles, guns, implements, revolvers, air canes, &c.
NEWCASTLE CHILLED SHOT Co., LIMITED, Gateshead-on-Tyne.—Chilled shot, chilled bullets.
PIGOU, WILKS AND LAWRENCE, LIMITED, 2, Queen Victoria Street, London; Works, Dartford, Kent, and Battle Sussex.—Gunpowder of all descriptions.
PURDEY (JAMES) AND SONS, Audley House, South Audley Street, London.—Sporting guns and rifles, new rebounding hammerless gun, &c.
REILLY, E. M., & Co., 16, New Oxford Street. and 277, Oxford Street, London, and Rue Scribe, Paris.—Sporting guns and rifles; revolvers, gun cases and apparatus.
WALSH LOVETT & Co., Birmingham, Sheffield, and London; and Commercial Buildings, Calcutta.—Sporting guns and rifles.
WEBLY (P.) & SON, Birmingham.—Fire-arms.
WESTLEY RICHARDS & Co., London and Birmingham.—Guns, rifles, and cartridges.

SECTION H.—FOOD PRODUCTS.

CLASSES CX TO CXXXVI.

PROVISIONS.

BROWN & POLSON, Queen Victoria Street, London; and Paisley.—Corn flour.
BUSH (W. J.) & Co., 20—23, Artillery Lane, Bishopsgate Street, London.—Fruit essences; extracts.
CANNON (B.) & Co., Lincoln.—Gelatine powder.
CARR & Co., Carlisle.—Biscuits.
CLANCHY (F. J.), Cork, Ireland.—Butter (red star brand).

CLARKE (W. G.) & SONS, Anchor Patent Biscuit Works, Limehouse, London.—Buffalo meat biscuits for dogs; pheasant meal; prepared poultry meal; ship biscuits; army biscuits.

CORBETT (JOHN), M.P., Stroke Prior Salt Works, Worcestershire.—Salt for provision curing, table, and dairy purposes.

CURRIE & Co., Paisley, Scotland.—"Glenfield" corn flour.

EDGAR (J.) & Co., Deal, Kent.—Tinned sprats and mackerel in oil; tinned vegetables.

EDMUNDS (J.), London.—Sauces.

EVANS, SONS & Co., 56, Hanover Street, Liverpool (Evans, Lescher and Webb, 60, Bartholomew Close, London).—Lime fruit juice and preparations; and Conroy's malt coffee.

FRY (J. S.) & SONS, Bristol and London.—Chocolate; cocoa.

GILLON (JOHN) & Co., Leith, Scotland.—Preserved provisions.

GRIMBLE & Co., Cumberland Market, London.—Vinegar.

HEMINGWAY (S.) & Co., Trafalgar Street, Bradford.—Baking powder.

KEILLER (JAMES) & SON, Dundee and London.—Confectionery; marmalade; jams; table jellies; bottled fruits.

MACKENZIE & MACKENZIE, 22, Earl Grey Street, Edinburgh.—Biscuits.

MACONOCHIE BROS., Raglan Works, Lowestoft.—Preserved provisions.

MACVITIE (R.), Edinburgh.—Oatcakes; shortbread.

MARSHALL & Co., Spring Garden Works, Aberdeen.—Preserved meats; soups; fish, &c.

METHUEN (JAMES) & Co., Leith, Scotland.—Preserved fish in tins.

MOIR (JOHN) & SON, LIMITED, 148, Leadenhall Street, London.—Preserved meats and soups; essences and extracts; preserved fresh fish, dried fish, salted fish; preserved fruits in syrup; jams, jellies, marmalade, condiments, pickles, &c.

MORTHEM PRESERVED BUTTER Co.—Preserved butter.

NESTLÉ (HENRI), 9, Snow Hill, London.—Milk food for infants; condensed Swiss milk.

OSBORNE (CHARLES) & Co., London.—Vinegar.

PREVET (C.) & Co. (late Chollet & Co.), 134, Fenchurch Street, London.—Dried and compressed vegetables; condensed soups.

SIBERIAN PACKING Co., London.—Tinned tongues; tinned fish.

SOCIETÉ GÉNÉRALE DE PRODUITS ALIMENTAIRES, 23, Rue Richer, Paris; and 101 Leadenhall Street, London.—Preserved butter; sardines in oil; preserved vegetables.

STOLLWERCK BROTHERS, Cologne, and 145, Cannon Street, London.—Chocolate; confectionery.

SYMINGTON (THOS) & Co., Edinburgh.—Essence of coffee.

SYMINGTON (W.) & Co., Bowden Steam Mills, Market, Harborough.—Pea flour; pea soup: Egyptian food; dandelion coffee.

TRIEB, MAYER & Co., 47, High Street, Borough, London.—Glucose; saccharines; hops.

TULLOCH (WILLIAM) & SON, London.—Cocoa; chocolate; nectar; jams; jellies; confectionery; tinned fruits; table jellies; bottled fruits; pickle.

WEBB (JUBAL), 73, High Street, Kensington, London.—Cheese and hams specially selected for exportation.

WINE, SPIRIT, BEER, &c.

ACKERMAN (LAURANCE), 41, Crutched Friars, London.—Sparkling saumur champagne.

AITKEN (JAMES) & Co., Falkirk.—Beer.

BODEGA COMPANY, LIMITED (J. H. Roger, Manager), 11, South Exchange Place, Glasgow.—Old Scotch whisky.

BOOTH & Co., London.—Old Tom gin.

CAMUSET (JULES), Great Tower Street, London.—Champagne wine.

CATHCART (G. & E.), Ayr, Scotland.—Old Scotch whisky ("Carrick Blend").

COATES (D.) & Co., Plymouth.—Plymouth gin.
COCKBURN & Co., Leith.—Very old Highland whisky, "extra finest whisky."
CORELLI (A. H.) & Co., Lisbon Buildings, Victoria Street, Liverpool.—Irish whisky (H. Thomson & Co.), Scotch whisky (Rob. Brown), Champagne (Jules Camuset).
CUTLER, PALMER & Co., 3a, New London Street, London; and Calcutta.—Wines; spirits; cordials.
DUNVILLE & Co., LIMITED, Royal Irish Distilleries, Belfast, Ireland.—Old Irish whisky.
FALKNER (FRANCIS), 83, Grafton Street, Dublin; and Charing Cross, London.—Irish whisky.
FIELD, SONS & Co., 28, Mincing Lane, London.—Spirits; liqueurs.
FORD (WILLIAM & SON), Leith, Scotland.—Scotch whisky (blended), "Collie," "Castle" and "Ruby" brands.
GILBEY (W. & A.), Oxford Street, London.—Wines; spirits.
GRANT (THOMAS), Maidstone, Kent.—Morella cherry brandy.
GRIFFIN (T. P.) & Co., London.—Sparkling ale.
GULLIVER (SAMUEL) & Co., Aylesbury.—Whisky curacoa.
GUTIERREZ, FLUGEL & Co., 26 and 28, Mark Lane, London; and Jerez de la Frontera, Spain.—Sherry.
HANSON, SON, EVISON, & BARTER, Botolph Lane, London.—"Peatmoor" Scotch whiskey.
HEDGES & BUTLER, Chief office, 155, Regent Street, London; Bonded Stores, Crescent Vault, London Docks; Branch Office, 30, King's Road, Brighton; Shipping Cellars, Jerez de la Frontera (Spain).—Wines and spirits.
HOLLAND & Co., Deptford Distillery, London.—Gin.
IND, COOPE & Co., Burton-on-Trent, Staffordshire; and Romford, Essex.—India pale ale and Romford light bitter beer in bottles.
KIRKER, GREER & Co., Belfast and Glasgow.—Irish whisky; "Lochdhu" Scotch whisky.
MACKAY (A. & B.), Glasgow.—Glenfalloch whisky.
MACKIE & Co., 5, Dixon Street, Glasgow.—Whisky.
MAIGNEN & Co., 22 and 23, Great Tower Street, London.—Sparkling sauterne.
MATHEW (RICHARD) & Co., 92 and 94, Albany Street, London.—"Carlton" whisky.
MILLER (A.) & Co.—Irish whisky.
MURDOCH (A.) & Co., Glasgow.—Fine old Highland whisky.
MULLER (ANDR.) (per D. W. MACLACHLAN & Co., 41, Seething Lane, London); Bremen, Germany.—Lager beer.
PERINET ET FILS, Reims, France (per London House, JUFFU BARNETT & SON, 36, Mark Lane, London).—Champagne.
PORTER (ROBERT) & Co., 77 and 79, Pancras Road, London.—Bottled ale (Bass & Co.'s); stout (Guinness & Co.'s); cider (apple brand).
ROBINSON, MORRISON & Co., 103, Clive Street, Calcutta.—Anot's Freres cognac brandy, Barnett Fils cognac brandy, Nolet's Holland "Siguet" gin, monogram gin, aromatic schnapps.
SELL (DR) & Co. London.—Whisky; brandy.
SIEGERT (DR. J. G. B.) & SONS, Port of Spain, Trinidad, West Indies (per KUHNER, HENDSCHEL & Co.) 145, Cannon Street, London).—Angostura bitters.
SLATER, RODGER & Co., 80, James Watt Street, Glasgow.—Old Scotch whisky ("thistle blend)."
SMITH & GIBB, Glasgow, Liverpool, and Manchester.—Highland malt whisky ("Argyle and the Isles").
SYMONS (JOHN) & Co., The Plains, Totnes, Devon; and Ratcliff Cross, London.—Cider ("Symonia") champagne and moselle wines ("Symonia" brand).
TENNENT (J. & R.), Well-Park Brewery—Pale ale, stout.
THOMSON (D. J.) & Co., St. Anthony's Distillery, Leith.—Old Tom.
TURNBULL & WOOD, 26, West Grainger Street, Newcastle-on-Tyne.—The "Glen" whisky (blend of old Highland whiskies).

USHER (ANDREW) & Co., West Nicolson Street, Edinburgh.—"Old vatted Glenlivet" whisky.
VANNAN (A. & R.).—Old Highland whisky.
VAUGHAN-JONES (E.), 17, Water Lane, London; and 63, West Regent Street, Glasgow.—Whisky (the well-known "C.I.G." Scotch whisky, &c.); gin; rum; liqueurs, &c.
VITALI (EGIDIO), 5 and 6, Great Winchester Street Buildings, London and Sondrio, Italy.—Italian wines, Italian sparkling wines; vino vermouth di Torino.
WACHTER & Co., 72, Mark Lane, London; and Epernay, France.—Champagne ("Royal Charter" brand).
WATKINS (JOHN), Hereford.—Cyder and perry.
WRIGHT & GREIG, 90, West Campbell Street, Glasgow.—"Roderick Dhu" old Highland whisky.

ESSENCES, ÆRATED WATERS, &c.

BARNETT & FOSTER, "Niagara" Works, 26, Eagle Wharf Road, London.—Ingredients, essences, flavourings, &c., for ærated waters.
BEATBY & HINCHLIFFE, Sandford Street, Ancoats, Manchester.—Essences and extracts for making ærated waters; ginger ale; lemonade; fruit syrups, &c.
BURGOYNE, BURBRIDGES, CYRAIX, AND FARRIES, 16, Coleman Street, London.—Essences.
CANTRELL & COCHRANE, Dublin and Belfast.—Ærated waters; natural waters; aromatic ginger ale; "Sparking Monstserrat;" "Club Soda," &c.
CORRY (WM.) & Co., Belfast Ærated Water Works, Cromac Springs, Belfast, Ireland. Mineral and ærated waters; patent recarbonated fluid magnesia; concentrated lemon syrup, &c.
GULLIVER (SAMUEL) & Co., Aylesbury.—Mineral and ærated waters.
HOWARD & SONS, City Mills, Stratford, Essex.—Chemicals for soda water manufacturers; citric acid; bicarbonate of soda; bicarbonate of potash; pure chloride of sodium.
LOEBIMER & Co., 42 & 44, Hargrave Park Road, London.—Essences, syrups and cordials.
ROSS (W. A.) & Co., Belfast, Ireland.—"Royal Belfast" ginger ale and other ærated non-alcoholic drinks.
SKINNER (THOMAS) & Co., Exeter.—Phosphodone; orange champagne.
SUMMERS (WM.) & Co., Milk Street, Bristol.—Ærated, mineral and other waters.
THOMSON (D. J.) & Co., St. Anthony's Distillery, Leith, Scotland.—British wines; lime juice cordial; liqueurs; orange bitters; Old Tom gin.
WRIGHT (FRANK), 27, Merton Road, Kensington, London.—Unfermented wines; fruit essences; syrups, &c.
YEATMAN & Co., 119, New Bond Street, London.—Granulated flavouring essence. Corn-flour, yeast, custard, egg, and pudding powders.

SECTION I.—AGRICULTURE AND HORTICULTURE.

CLASSES CXXXVII TO CXLIII.

BALL (W.) AND SON, Rothwell.—Four iron ploughs—2 jara, 2 Hindoo.
CARTER (JAMES) AND Co., 237 and 238, High Holborn, London.—English home-grown seeds for the Indian markets in hermetically sealed boxes.
DOULTON AND Co., Lambeth, London.—Channel pipes and copings for sewer conduits used in irrigation, sluice valves for the same, garden edging, vases terminals, fountains, &c.

DUFFIELD AND JAMES, Alexander Stamping Works, Monmer Lane, Willenhall.—Solid-eyed hoes, hammers, &c.

EAGLE EDGE TOOL COMPANY, Wolverhampton.—Plantation hoes, spades, shovels &c.

EDWARDS (WILLIAM) AND SON, Griffin Works, Wolverhampton, and 27 and 28, King William Street, London Bridge, London.—Plantation hoes, spades, shovels, edge tools, hammers, axes, adzes, pickaxes, contractors' tools, estate tools, mining tools.

FARMER, ROBEY, BROWN & Co., LIMITED, Trent Foundry, Gainsborough.—Agricultural machinery.

FOWLER (JOHN) AND Co., Steam Plough and Locomotive Works, Leeds; and 28, Cornhill, London.—Two 10-H.P. compound ploughing engines and implements used in cultivation.

GARRETT (RICHARD) AND SONS, Leiston Works, Leiston, Suffolk.—Agricultural machinery.

HADFIELD'S STEEL FOUNDRY COMPANY, Hecla Steel Casting Works, Attercliffe, Sheffield.—Steel castings for parts of agricultural machinery, such as shares, skifes, traction engine, gearing, &c.

HARDY PATENT PICK Co., LIMITED, Sheffield.—Agricultural and plantation tools.

JOHNSTON HARVESTER COMPANY (THE), 1 and 2, Chiswell Street, London.—Self-raking reaping machine.

LINLEY (S. AND R.), Plough Works, Sheffield.—Scythes, machine knives, and other agricultural tools.

OAKSHOTT (EDWARD GEORGE) AND Co., Reading.—Seed corn.

PACKARD (E.) AND Co., Ipswich, and 155, Fenchurch Street, London.—Concentrated superhosphates and other artificial manures, patent solid phosphoric acid.

PERKS (J.) AND SONS, Monmore Green Works, Wolverhampton.—Tea garden plantation tools.

RANSOMES, HEAD AND JEFFRIES, Ipswich.—One Indian plough; 1 lightwood and eagle plough.

RICHARDS (THEOPHILUS) AND Co., Oozells Street, Birmingham.—Implements and tools used in tea cultivation.

SAMUELSON AND Co., Britannia Works, Banbury, Oxon.—Self-delivery reaping machines, manual delivery reaping-machines, grass-mowing machines, lawn-mowing machines.

SAYNOR, COOK AND RIDAL, Sheffield.—Horticultural implements and appliances.

SORBY (ROBERT) AND SONS, Sheffield.—Horticultural tools; plantation tools, &c.

SUTTON AND SONS, Reading.—Seeds, models of vegetables, agricultural roots, potatoes, &c., specimen boxes containing collections of vegetable seeds and flower seeds suitable for the various climates of India, China, and the East, packed by the exhibitors' new system.

SWINDELL & Co., Withymore Works, Dudley.—Makers of the real Griffin hoe; edge tools of all kinds.

TAYLOR BROTHERS, Adelaide Works, Sheffield.—Chaff and sugarcane knives; matchets.

THOMSON (T. E.) & Co., 9, Esplanade Row, Calcutta.—Coalbrook Dale Co.'s entrance gates and fountain. Fountain shewn in play. Howard's ploughs, harrows, ryots' tillage implements. Agricultural and horticultural tools and implements.

WARNER (J.) & SONS, Crescent Foundry, Cripplegate, London.—Fountains.

WILLS (A. W.) AND SON, Park Mills, Nechells, Birmingham.—Hoes, picks, axes, spades, &c.

YATES (JOHN) & Co., Pritchet Street, Birmingham; and Exchange Works, Aston Manor, Birmingham.—Kodallie, hoes, forks, axes, dhaws, spades, and shovels for tea and coffee plantations.

MACHINES, &c., APPLIED TO AGRICULTURAL AND HORTICULTURAL PRODUCTS.

ANSELL (C. W.)—Ansell's patent tea sorter and winnower (Makers, Messrs. Ransomes, Head and Jeffries).

AVERY (W. & T.), London and Birmingham.—Weighing machines for agricultural purposes.

BAIN AND CO. (WILLIAM), Lochrin Iron Works, Edinburgh.—"Corrimony" galvanised wire fence.

BURGESS (W. J. & C. T.), Holborn Viaduct, London; Works, Brentwood, Essex.—Rice machines; cotton gins with cleaner and condenser; water lift for bullock power; water lift for hand power.

CAPELL (R. A.), 18 and 19, Bloomfield Street, London Wall, London.—Tea and coffee drier.

DAVIDSON (JOHN) & SONS, Phœnix Flour Mills, Newcastle-upon-Tyne.—Grain and seed separator and cleaner.

DEATH & ELLWOOD, Leicester and London.—Sugar mills; fibre machinery.

GEORGE (R. J.) & Co., Swansea, South Wales.—Fencing materials, wire standards.

GREIG (JOHN) & Co., Regent Works, Norton Place, Edinburgh.—Green leaf tea cutting machine; link and lever tea rolling machine; circular hand motion tea sifting machine; globulous pipe tea drying stove; self-acting tea drying and withering machine (The "Cyclone"); hot-air generator or simoon drying stove.

HORNSBY (RICHARD) & SONS, LIMITED, Spittlegate Iron Works, Grantham.—Indigo-cutting machine.

HOWES & EWELL, 16, Mark Lane, London.—"Eureka" scouring, separating, and aspirating machine for cleaning wheat.

HUNT & TAWELL, Atlas Works, Earls Colne, Essex.—Chaff-cutters; maize and oat mills.

JOHNSON & NEPHEW (RICHARD), Manchester—Steel barb wire fencing and materials.

KINMOND (JAMES C.), Sunnycroft, Leamington.—Tea dryer, adapted for the use of all kinds of fuel; tea dryer suited for coke and charcoal fuel only; centrifugal tea rolling machine.

MAIN (A. & J.) & Co., Clydesdale Iron Works, Glasgow; and 108, Queen Victoria Street, London.—Galvanised iron tea house; portable steel railways; galvanised bark wire fencing.

MARSHALL, SONS & Co., LIMITED, Britannia Iron Works, Gainsborough.—Tea machinery; thrashing machinery and corn-grinding machinery, including:—"Excelsior" and "Universal" tea rollers; "Eureka" tea sifter and tea-cutting machine; improved steam thrashing machine; double 3-feet corn-grinding mill.

NICHOLSON (W. N.) AND SON, Newark-on-Trent.—Rice sheller; bone crushing and grinding mill.

PLANTERS' STORES AND AGENCY COMPANY, LIMITED, London, Calcutta, and Assam.—Lyle's improved patent tea rolling machine.

READING IRON WORKS, LIMITED, Reading.—Cotton gin.

REID & Co. (BEN.), Aberdeen.—Hand threshing machine.

RICHMOND AND CHANDLER, Manchester.—Chaff-cutting and corn-crushing machines.

ROBINSON (THOMAS) & SON, LIMITED, Rochdale.—Corn-milling machinery.

RUSTON, PROCTOR & Co., Sheaf Iron Works, Lincoln.—Single corn grinding mill.

THOMAS (J. J.) & Co., 87, Queen Victoria Street, and 285 and 362, Edgware Road, London.—Horticultural iron and wire goods; flower stands; rose temples; archways.

WHITMORE & BINYON, 28, Mark Lane, London; Works, Wickham Market, Suffolk.—Corn-grinding machinery.

WITT (GEORGE PAWSEY), 30, Mark Lane, London.—Rice-cleaning machinery; wheat-cleaning and grinding machinery; tea drying and sifting machinery.

SECTION K.—ETHNOLOGY, ARCHÆOLOGY, AND NATURAL HISTORY.

CLASSES CXLIV TO CXLIX.

FISHING IMPLEMENTS.

ALLCOCK (S.) & Co., Standard Works, Redditch.—Fishing rods, lines, hooks, &c.;

KIBBY, BEARD & Co., 115, Newgate Street, London and Birmingham.—Fish hooks.

MILWARD (HENRY) & SONS, Washford Mills, Redditch.—Fish hooks.

TURNER (R.) & SONS, Old Factory, Redditch.—Fish hooks.

NATURAL HISTORY.

GERRARD (EDWARD), 31 College Place, Camden Town, London.—Natural history specimens.

WARD (ROWLAND), F.Z.S., 166, Piccadilly, London; Head of tiger with paws; Group of tiger cubs (Tigris regalis), in lair; "Targopan Hastingsii" (spotted pheasant); "Lophophonus Impeyanus" (monal pheasant).

BRITISH GUIANA.

SECTION A.—FINE ARTS.

CLASSES I TO VI.—WATER COLOR VIEWS.

Drawn by J. G. SAWKINS, *and exhibited by* EXHIBITION COMMITTEE.

KAIETEUR FALL.
PIAMAH.
PACARIMA MOUNTAINS. From Karinambo, Rupununi river.
MARCUGHI FALLS. Maha-cuma.
RORAIMA.
DEVIL'S ROCK.
MALALI FALLS.—Demerara river.
BARTICA GROVE. Essequebo river.
PINARA. Lake Amucu.
PAIWORI. Essequebo river.
AMUCU MOUNTAINS. Rupununi river.
ETBALI MOUNTAINS. Rupununi river.

PHOTOGRAPHS.

Exhibited by EXHIBITION COMMITTEE.

IMMIGRANTS' QUARTER with SUGAR FACTORY in distance	Pln. Leonora.
SEA DEFENCES. Lugger with granite	Ditto.
MANAGER'S RESIDENCE and adjoining factory ...	Ditto.
THE SEA DEFENCES, placing façines for foundations	Ditto.
FIELDS OF CANE, two months old, showing drilling	Ditto.
INNER LOCK SYSTEM	Ditto.
OUTFALL SLUICE	Ditto.
HOSPITAL	Pln. Uitvlugt.
PRIESTMAN'S DREDGER digging a canal ...	Ditto.
BARGES with SUGAR passing a drawbridge ...	Ditto.
PAYING OFF the WEEK'S LABOUR at overseer's quarters	Ditto.
MANAGER'S RESIDENCE and FACTORY	Tuschen de Vrienden.
OVERSEERS' QUARTERS, LABORATORY, and HOSPITAL	Ditto.
LOCKS and DRAINAGE SLUICES	Ditto.
MEDICAL OFFICER'S RESIDENCE, POST OFFICE, and TELEGRAPH STATION	Ditto.
GROUP of EAST INDIAN COOLIES	Ditto.
VIEW of FIELD OF CANES, just planted, from the back woods	Ditto.
CLEARANCE of FOREST with commencement of a polder	Ditto.
COMMENCEMENT of WEST COAST GRAND CANAL in connection with Anna Catharina present lock	Pln. Anna Catharina.
CANAL MADE IN CONNECTION with the Grand Canal	*Ditto.*
MANAGER'S HOUSE	*Ditto.*
HOSPITAL	*Ditto.*

SCHOOL-HOUSE AND OVERSEERS' QUARTERS ...	Pln. Anna Catharina.
FACTORY	Ditto.
IMMIGRANTS' HOUSES	Ditto.
Ditto	Ditto.
FACTORY with Manager's house in view ...	Pln Houston.
Ditto Proprietor's	Ditto.
MAIN VIEW of factory	Ditto.
IMMIGRANTS' COTTAGES	Ditto.
ENTRANCE to the COFFEE and COCOA estates ...	Pln. Noitgedacht.
COFFEE DROGHEEY	Ditto.
COCOA DRYING HOUSE and NURSERY	Ditto.
AMONG THE FOUR-YEAR OLD COCOA	Ditto.
FOUR-YEAR OLD LIBERIAN COFFEE	Ditto.

VIEWS OF GEORGE TOWN.

ENTRANCE to the RIVER DEMERARA ... ... Pln. Noitgedacht.
BIRD'S EYE VIEW OF GEORGE TOWN.
SEA WALL LOOKING WEST.
BARON SICCAMA'S DUTCH DYKE, showing the work in progress.
IMMIGRATION DEPOT.
BEST GROIN from an EASTERN POINT OF VIEW, erected in 1878, to check the scour of the river from the west.
BEST GROIN from a WESTERN POINT of VIEW.
AN ALBUM containing the following VIEWS:—

SUGAR FACTORY, EXTERIOR VIEW	Anna Regina.
DITTO ditto	Leonora.
DITTO ditto	Taymouth Manor.
DITTO ditto	Annandale.
DITTO ditto	Uitvlugt.
DITTO ditto	Tuschen de Vrienden.
DITTO ditto	Nonpareil.
DITTO ditto	L'Union.
DITTO ditto	Reliance.
DITTO ditto	Enterprise, E. C.
DITTO ditto	Melville.
DITTO ditto	La Bonne Intention.
DITTO ditto	Bel Air.
DITTO ditto	Blairmonte.
DITTO ditto	Enmore.
DITTO ditto	La Grange.
DITTO ditto	Nismes.
GENERAL VIEW OF INTERIOR OF FACTORY ...	Anna Regina.
DITTO ditto	Taymouth Manor.
DITTO ditto	Tuschen de Vrienden.
DITTO ditto	Nonpareil.
MACERATING ENGINES	Anna Regina.
DITTO ditto	Nonpareil.
DITTO ditto	Leonora.
VACUUM PANS (Mammoth Pan)	Nonpareil.
DITTO ditto	Anna Regina.
DITTO ditto	Leonora.
DITTO (triple effect)	Enmore.
DITTO	Adelphi.
COPPER WALLS	Anna Regina.
DITTO	Leonora.
DITTO	Adelphi.
HOSPITALS	Anna Regina.
DITTO	Taymouth Manor.

HOSPITALS	Blairmonte.
DITTO	Lusignan.
DITTO	Albion.
SEA DEFENCES	Taymouth Manor.
DITTO	Richmond.
CANE CULTIVATION	Nonpareil.
DITTO	Blairmonte.
AQUEDUCT	Taymouth Manor.
MEGASS LOGIES	Reliance.
DITTO	Anna Regina.
DRAINING ENGINES	Bel Air.
DITTO ditto	Reliance.
DRAINING SLUICES	La Bonne Intention.
PRIESTMAN'S DREDGEE	Ditto.
DITTO ditto	Lusignan.
MANAGER'S RESIDENCE	Anna Regina.
DITTO ditto	La Grange.
DITTO ditto	Nismes.
DEPUTY MANAGER'S QUARTERS	Nonpareil.
DOCTOR'S RESIDENCE	Leonora.
OVERSEERS' QUARTERS	Annandale.
EAST INDIAN IMMIGRANTS' QUARTERS	Anna Regina.
DITTO ditto	Reliance.
DITTO ditto	Melville.
CHINESE QUARTERS	Reliance.
SCHOOL-HOUSES	Taymouth Manor.
DITTO	Reliance.
HEADMEN OR DRIVERS	Nonpareil.
IMMIGRATION DEPOT.	
IMMIGRANTS ON BOARD SHIP.	

SECTION C.—HEALTH.

CHEMICAL AND PHARMACEUTICAL ARTICLES AND PRODUCTS.

	Contributed by
3 Bottles BOERI-ARI BITTERS	Exhibition Committee.
3 Ditto ORANGE ditto	Ditto.
3 Ditto QUASSIA ditto	Ditto.
6 Ditto CROMATIC ditto	C. F. Vieira.
1 Ditto Colony made ditto	Francisco D'Almado.
8 Ditto UNIVERSAL ditto	John Campbell.
1 Ditto AWARRA PALM OIL	Exhibition Committee.
1 Ditto SHARK OIL	W. Merriman.
1 Ditto COMB FISH OIL	Ditto.

This oil is used by immigrants from India for anointing the skin and also for illuminating purposes, the name of the fish from the liver of which the oil is extracted is Pristis pectenatus.

8 ditto CRAB NUT OIL	John Campbell.

This oil is obtained from the tree which yields Crabwood; it is used for burning and is much esteemed as a hair oil; it is used in skin diseases of horses, cattle, and dogs.

2 Ditto COCOANUT OIL	Pln. Fortitude.
1 Ditto ditto ditto	Ditto.
1 Ditto LAUREL OIL	Exhibition Committee.

This oil is extensively used by the Indians in affections of the joints and in rheumatism, and it is also a great solvent of India rubber. The tree

from which the oil flows is Oreodaphne Opifero, and it requires no purification after it exudes from the tree; great difficulty is experienced in obtaining it in large quantities.

Sample COCOANUT OIL MEAL CAKE ... Pln. Fortitude.
12 Pieces GILLBACKER GLUE ... ... Exhibition Committee.
8 Pieces CILLBAKER GLUE ... ... W. Merriman.

The fish from which the glue is procured is Silurus Parkerii, the glue is very valuable and is used in the manufacture of Isinglass.

Contributed by

Sample of SNAPPER GLUE ... ... J. P. Murphy.
Ditto BALATA PLAITED ... ... Exhibition Committee.
Ditto ditto in a ball ... ... Ditto.

LOCUST GUM or GUM ANIMI ... ... G. Couchman.

The Gum is obtained from the Locust Tree (*Hymenæa Courbaril Lin*), and may be obtained in large quantities in certain parts of the Colony.

BALLS of TOUCKONG or COMACO-BALLY GUM ... Exhibition Committee.
GUM HYAWA or INCENSE GUM ... ... Ditto.

This Gum is taken from the Hyawa or Incense Tree, and burns with a fragrant and pleasing odour.

Two samples of CARAMAN GUM or BUCKWAX ... Exhibition Committee.

This is taken from the Mani Tree, and is used by the Indians for fastening arrowheads to shafts; it is also used as a substitute for pitch.

1 Bottle ISINGLASS ... ... W. Merriman.
1 Ditto BALSAM COPAIBA ... ... Exhibition Committee.
1 Sample CASTOR OIL SEEDS ... ... Ditto.

MEDICINAL BARKS.

Collected by JOHN BREMNER.

WARAHIA BARK.—A decoction of this bark is used by the Indians for sore-mouth.
DALLY BARK.—A decoction of the bark should be taken early in the morning for sorethroat.
CACARWA BARK.—A decoction of this bark is used as a purgative.
CABACARA ROPE.—A decoction of this rope is used for bathing ulcers.
SEREEDA BARK.—This is used both as a febrifuge, and also as a purgative.
OBOODY BARK.—Used as an emetic.
ETEKEBOROO BARK.—Used as an emetic.
CACARALLY BARK.—A decoction is used for bathing ulcers and sores.
ARESAREOO BARK.—This bark, powdered and mixed with gunpowder, is a useful remedy for ringworm.
COCCORO.—A decoction of this bark is used in cases of palpitation of the heart.
HÆREHIE BARK.—A decoction of this bark is used as a gargle for sore throat.
DACAMA BARK.—Used as a purgative.
WARRACORIE BARK.—A decoction of the bark is used as a dressing for sores.
SEMAROPA BARK.—Used in cases of bad diarrhœa.
ARRACADACOO BARK.
TROISLE BARK.—A decoction of this bark is used for washing sores.
SARUBABA.—A decoction of this bark is used as a febrifuge.
CARABA BARK.—A decoction of this bark is used for stoppage of the bowels.
YARUQUARA AND COREHECOQOCO BARKS.—Used conjointly for asthma.
COW-ABALLY BARK.—Used as a febrifuge.
WALLABA BARK.—Used as a febrifuge and for toothache.
KERECOWA BARK.—A decoction of this bark is used as an antidote to certain poisons.
AREWEWA.—Used as a purgative.
WORRALLY BARK.—Used as a purgative.

TORALY BARK.—Used as a purgative.
OULOO BARK.—Used as a febrifuge.
SEMEBI BARK.
HIAWA BARK.—A decoction of the bark is used for curing coughs.
ARAMATA.—A poultice of this bark is used for snake, centipede, and spide bites.
WIMORSHIE BARK.—Used as a febrifuge.
HORAWASA BARK.—A decoction of this bark is used as a hair restorer.
TOWIANEROO BARK.—Used in child-birth.
SOUARIE BARK.—Used as a febrifuge.
MORA BARK.—Used for dysentery.
MORAHADA AND OWUNABANA BARKS.
CACORYAN BARK.—Used as a purgative.
BOERIARI ROPE.
WAUARADARY BARK.—Used for bathing sores.
MANI BARK.—Used as a purgative.

Collected by EDWARD SKON, *on the Demerara River.*

MORABALLI BARK.—Used as a fish poison and also as a dressing for sores.
MORA BARK.—Used in cases of dysentery.
LOCUST BARK.—Used in cases of dysentery.
BLOOD-WOOD BARK.—Used in tanning.
HYAWA OR INCENSE TREE.
ETAWALLI BARK.
WALLABA BARK.—Used for toothache and also as a febrifuge.
MESS APPLE BARK.—Used in tanning.
CASHEW BARK.—Used as an astringent.
SIMARUBA ROOT.—Used for dysentery.
SEREDA BARK.—A decoction of the bark is used for small-pox.
WILD GUAVA BARK.—Used for dysentery.
COMACOBALLI BARK.
DOKAMARBALLI BARK.—Used in tanning.
CURUBALLI BARK.—Used as an emetic.
ARESOORO.
BERI-ABI ROPE.
CRABWOOD BARK.
HAIARBI ROOT.—Used as a fish poison.
COFFEEBALLI BARK.
MARBIE BARK.—A decoction of this bark makes a refreshing drink, and a light febrifuge.
BUNDLE of WORM WEED.—Exhibited by J. P. Murphy. The weed is very useful for destroying intestinal worms.

SECTION F.—RAW PRODUCTS AND MANUFACTURES FROM PRODUCTS NOT INCLUDED IN OTHER SECTIONS.

CLASSES LIII TO LXXXI.

WOODS.

Collected by M. MCTURK.

SOUARI (*Caryocar tomentosum; Dec.*) From the Moraballi Creek, Essequebo river.

Souari thrives best and seems to attain to its largest size on the hills composed of a stiff, yellowish clay, mixed with a gravelly kind of stone resembling oxide of iron. The trees are plentiful on the Essequebo, and seldom very far from a creek or the main river. Their average height is about 90 feet, and the timber

can easily be got to square 24 inches; it is very tough and cross-grained. The trunks of the trees are seldom used, but the roots make excellent floors and futtocks for ship building, and can be had sufficiently large to timber a vessel of large size. The Souari-nut (butter-nut), well known in the colony, is the fruit of this tree. The nuts, three or four in number, grow enclosed in a pulpy substance, or fruit, which, before it drops from the tree, greatly resembles in size, shape, and colour the mammee apple (Mammea americana (*Lin.*)

DETERMA. From the Moraballi Creek, Essequebo river.

Determa grows best on clayey, gravelly soil, and is more plentiful in the Moraballi Creek than any other part of the colony below the Rapids that I am aware of. The average height is about 100 feet, and it can be had to square up to 30 inches. This wood is of a colour resembling cedar, and is used for planking boats, in the construction of railway carriages, and for many other purposes where a light and strong wood is required. Determa is also used for the masts and spars of vessels; the largest spars for these purposes procurable in the colony are of this wood, from 70 to 90 feet long, and 14 inches in diameter at the smallest end. I have seen a log of this timber 42 inches square.

KABUKALLI. From the Moraballi Creek, Essequebo river.

This tree is plentiful all over the colony, and thrives best in loose, sandy soil. Kabukalli is one of our tallest forest trees, and grows very straight; its average height is about 120 feet, and it can be had to square up to 30 inches free of sap. Kabukalli is used in boat building, and for timber is little inferior to Mora. This wood has a very unpleasant smell, and is disliked by worms. The Indians living in the wet savannahs, or where the rivers are free of bush to form a shade, prefer canoes made of this wood to any other, as they will not split from exposure to the sun. A gelatinous substance forms on the stump after cutting down a Kabukalli tree; it has a disagreeable smell, and never hardens. The specific gravity of this wood, as given in a letter by John F. Bourne, Esq., the then Colonial Civil Engineer of the colony, to J. Brumell, Esq., Secretary to the Committee for the examination of 1862, was 1 154 water being 1000.

TATABOO. From the Moraballi Creek, Essequebo river.

The tree from which the samples were cut was 104 feet high. Tataboo grows in sandy soil, and is not a very common wood. The average height of these trees is about 80 feet. The wood is dark-coloured, heavy, and hard, and well adapted for mill-bed timbers; it is also used in boat-building, house-framing, &c. Tataboo can be had to square up to 22 inches free of sap.

MAMOORI-BALLI. From the Moraballi Creek, Essequebo river.

This tree is plentiful in Essequebo, and grows best in sandy soil. The average height is about 70 feet, and it can be had to square 16 inches. The wood is tough and hard, and is suitable for house-framing and other work where it will not be exposed to the weather.

PAKOORIE. From Itoori-bisci Creek, Essequebo river.

This tree is plentiful in the Itoori-bisci Creek, and generally throughout the county of Essequebo; it thrives best in the loose, sandy soil. The average height is about 80 feet, but it is a tree the trunk of which is very large compared with its height; it can be had to square up to 36 inches free of sap. When arrived at maturity this is a very durable wood, and is used for house-framing and many other purposes. The tree produces an edible fruit of the size and colour of a large orange, and a yellow, sappy gum that is considered useless.

WAIBAIMA. From the Moraballi Creek, Essequebo.

This tree is a species of Cirouaballi or Siruaballi. (*Nectandra*, or *Oreodaphne*). The wood has a strong aromatic scent and bitter taste, and is about the best wood in the colony for planking vessels. The trees are numerous in the Essequebo and Demerara rivers. Their average height is about 90 feet, and as there is little or no sap, the timber can be had to square the large size, 20 to 28 inches.

For planking and all other purposes of ship-building for which greenheart is used, I think this wood is superior, and deserves to be classed among the first class woods at Lloyd's for ship-building.

KOOROO-BALLI or TEYSIL. From the Moraballi Creek, Essequebo river, where this tree grows plentifully.

The average height of the trees in the forest on the upper parts of the river is about 60 feet. On the coast lands and in the swamps aback of the estates, where large quantities of it are cut for firewood it does not grow so large; it can be had to square 10 inches free of sap, and is a dark, close-grained wood, suitable for making furniture. The bark of the Kooroo-balli is used by the Indians in cases of dysentery.

ITIKIBOURA-BALLI (*Machaerium?*). From the Moraballi Creek, Essequebo river.

Itikiboura-balli grows in clay soil and on the islands in the rapids of the Essequebo. It is comparatively a rare tree below the rapids, and does not attain to an average height of more than 70 feet. The sap wood is white and its junction with the heart or tacouba, which is of a deep brown, almost black, colour, is sharply defined. It can be had to square up to 15 inches free of sap, and is used for making articles of furniture and walking sticks. Itikiboura-balli is one of the heaviest and closest grained woods in the colony.

SEEBADANI. From the Moraballi Creek, Essequebo river.

This tree grows in clay and sandy soil, and has an average height of 90 feet. The wood is used for framing purposes, and can be had in large quantities; it will square up to 29 inches and has very little sap.

WALLABA, or BIMITI-WALLABA (*Eperua falcata. Aubl*). From the Moraballi Creek, Essequebo river.

This wallaba grows in loose, sandy soil over extensive tracts of country, and is a wood known to every one in the colony. There are four varieties of this tree, locally known as Bimiti-Wallaba, Itoori Wallaba, Karabimiti Wallaba, and Sarebebe, meaning humming bird, baboon, red humming bird, and water wallaba. The first two grow on loose sandy soil, and the Karabimiti Wallaba on clay near the river banks. Sare-bebe grows in the water at edge of the river. The two last are never used; from the Bimiti and Itoori Wallaba frames for houses are made, vat staves, paling staves, and shingles, both for colonial use and for export to the neighbouring colonies. These trees are all plentiful, and have an average height of 80 feet, and can be had to square 20 inches free of sap. The scraped root of the Itoori Wallaba is used by the Indians as a cure for toothache.

BARTABALLI (*Achras mammosa, Bonpl., Lucuma Bonplandii H. B. K.*). From the Moraballi Creek, Essequebo river.

Bartaballi grows on clay and sandy soils, and is found plentifully up the Essequebo and Demerara rivers. The tree averages a height of about 90 feet, and can be had to square up to 20 inches free of sap. The wood is close grained, light, and of a pale brown colour and is useful for making tables and other articles of furniture, and for partition boards, doors, &c., for houses. This tree produces a milky juice somewhat similar to that of the Bureh or Bullet tree but of a sticky nature: its fruit is one of the best produced by any of our forest-trees, and is eagerly sought for by the Indians during its season (about the month of April) when, with characteristic carelessness, the trees are cut down in large numbers for their fruit. The specific gravity of this wood, according to Mr. Bourne, is 893.

ITOORI WALLABA, *see* Wallaba.

TAWARONERO, OR BASTARD BULLET TREE (*Humirium floribundum, Mart*).

This tree is plentiful throughout the colony, and grows on sandy soil, and near to, but not in the swamps. The average height is about 90 feet, and it can be had to square 20 inches free of sap. The timber is useful for framing houses, wheel-spokes, and many other purposes, and where small-sized timber is required

is superior to greenheart. The tree produces an edible fruit about the size of a grape. At the expiration of a week or ten days after cutting away the bark from the stem of these trees, a minute fungus emitting an agreeable perfume grows upon them: this is scraped off and used by the Indians for scenting their hair oil. Tawaronero produces a gum similar to Bullet-tree, but in much smaller quantity.

BULLET-TREE, OR BURUEH (*Sapota Mulleri, Miq.* or *Mimusops, sp?*). From the Moraballi Creek, Essequebo river.

This tree grows plentifully, especially in Berbice, where it may be found 5 feet in diameter; its average height is about 100 feet, and it can be had to square 42 inches free of sap. During the time that windmills were used in the colony Bullet-tree was considered to be the best wood for the arms of a windmill. The gum known as Balata is produced by this tree. The wood is dark red, close grained, and solid, and, when free of sap, most durable. During the time that the fruit is ripe many of the trees are cut down. The fruit resembles the well-known Sapodilla in taste, and is about the size of a large English cherry: from the seeds oil can be extracted. The bark of the Bullet-tree is used medicinally by the Indians in the form of a clyster for a disease called kaïna-kuhu, or Carabisci sick, and occasionally as an emetic.

FUKADIE. From the Moraballi Creek, Essequebo river.

Fukadie grows on sandy oil. Its average height is about 80 feet, and it can be had to square 16 inches free of sap. It is used for house-framing, and is a durable wood for indoor work. This tree is very plentiful on the Itooribisci Creek, and generally in Essequebo.

KARAHURA. From the Moraballi Creek, Essequebo river.

Karahura grows generally throughout the colony in dry places. It is one of the lightest of colonial woods, and is only fit for partition boards and other indoor work of a similar nature. It is used by the Indians for making canoes. Its average height is 80 feet, and it can be had to square 30 inches.

HOOBOODIE OR WILD CASHEW. From the Moraballi Creek, Essequebo river.

This tree grows in low situations near water, and averages about 8 feet in height; the wood is light and not very durable, and is only used for boards. The fruit of the Hooboodie is similar in shape to that of the ordinary Cashew, (Anacardium occidentale, *Lin.*) and as well as the bark is of an astringent nature, and is used medicinally in cases of diarrhœa.

LALLIFER. From the Moraballi Creek, Essequebo river.

This tree like Waibaima is a species of Ciroua-balli or Siruaballi (Nectandra or Oreodaphne), and is comparatively abundant on the Essequebo, but like all of the Siruaballi species is difficult to procure of large size free of holes; the wood has a strong aromatic scent, and is used in boat-building. Its average height is about 70 feet, and it can be had to square 16 inches.

MANNIBALLI. From the Moraballi Creek, Essequebo river.

Mannïballi grows in dry situations, and its wood is distinct from and much more durable than that of Manni (Amyris or Icica, sp.?), a tree that grows always in swamps. Mannïballi is a most durable wood when free of sap, and like Tawaranero is superior to Greenheart where small sizes of timber are required. It grows tall and straight, is close-grained and of a brownish yellow colour. Its average height is about 100 feet, with a very small top. Mannïballi produces a sticky yellow gum, which is not used for any purpose that I am aware of. This tree can be had to square 20 inches free of sap.

KAUTA-BALLI. From the Moraballi Creek, Essequebo river.

There are two or three varieties of this tree, distinguished by the size of the leaves. Kauta-balli grows to its largest size on clay soil mixed with gravelly ironstone. It is plentiful on hilly land, and attains to an average height of 80 feet,

and can be had to square 14 inches. The wood is useful for house-framing, is hard, and has a close straight grain. The fruit of the Kauta-balli is not edible; its bark made into charcoal, and ground to powder, is used by the Indian women to mix with the clay of which their pots, goglets, and other earthenware vessels are made.

WADADURI OR MONKEY POT (*Lecythis grandiflora, Aubl.*). From the Moraballi Creek, Essequebo river.

There are two varieties of this tree, plentiful throughout the colony, distinguished by the size of their leaves and the places where they grow. This sample is from the small-leaved kind which grows to a large size on sand and clayey soil, and attains to an average height of about 100 feet. It can be had to square free of sap 28 inches. The broad-leaved variety grows in swampy places and is a much smaller tree; its wood is not so durable as that of the small-leaved variety. It is used for furniture, house-building, &c., and formerly for hogshead staves. The tree bears a nut which is sometimes eaten, and a fine oil can be extracted from the kernels.

WAMARA. From the Moraballi Creek, Essequebo river.

This tree is not plentiful in any part of the colony below the rapids. It grows on sandy soil and does not average more than about 60 feet in height, and can be had to square 12 inches free of sap. The heart or Tacouba is exceedingly hard, heavy, and very close-grained, resembling ebony. The sap-wood, of which there is very little, is of a yellowish white colour; on exposure to the weather it rots away from the heart rapidly. The Indians make their clubs from this wood; it is little used in the colony owing to its extreme hardness, but it is a fine wood for inlaying and other cabinet work.

IRRIARIADAN. From the Moraballi Creek, Essequebo river, where it grows plentifully on high, sandy oil.

Irriariadan is a species of Trysil, and is little known. It is a fine wood of a dark brown colour, and suitable for cabinet work, partition boards, staves, and many other purposes. The average height is about 80 feet, and it can be had to square 10 inches free of sap.

DUKURIA. From the Moraballi Creek, Essequebo river.

Dukuria is plentiful throughout the colony, and grows in dry soils; it is used for house-framing and many other purposes, and is a very serviceable wood. There are two kinds of dukuria, fine and large leaved. Its average height is about 90 feet, and it will square 16 inches free of sap.

DAKAMA-BALLI. From the Upper Essequebo river.

This tree grows plentifully near the water; its average height is about 80 feet, and it will square 20 inches free of sap. The wood is little used. From the seeds of the dakama-balli a starch is extracted, which is considered very efficacious in cases of dysentery or diarrhœa. The Indians, when their cassava fails, used the starch mixed with decayed wood to make a kind of bread. The bark is used for tanning.

GREENHEART, or BIBIRU (*Nectandra Rodiæi Schomb*). From the Moraballi Creek, Essequebo river,

There are three varieties of Greenheart—yellow, black, and mainop—all most serviceable and durable woods, if cut when arrived at maturity. Greenheart is one of our tallest forest trees, and logs can be had from 18 to 24 inches square, and 70 feet long. It grows in clay soil near the rivers and creeks, and not over extensive tracts of country like bullet-tree and wallaba. Owing to the great demand for this timber, and the want of legal restriction to prevent the cutting of the young trees by wood-cutters and charcoal-burners, it is becoming extremely difficult to procure good greenheart, and its preservation is worthy of the attention of the Legislature. Greenheart is one of the eight first class woods at Lloyd's; and admirable kelsons, knee and other timbers can be had of it. Sawn

into scantling it is used for planking vessels. For wharves, house-framing, mill timbers and many other purposes, greenheart is unsurpassed by any other wood in the colony. From the bark and seeds "Bibirine" is extracted. The Indians use the seeds medicinally in cases of diarrhœa, and for food, ground and mixed with other meal, in times of scarcity.

ETA-BALLI. From the Upper Essequebo river.

Eta-balli is plentiful in low situations near the rivers and creeks. The wood is little used. The tree attains an average height of about 90 feet, and will square 18 inches free of sap.

WILD GUAVA. From the Upper Essequebo river.

Wild guava grows best in rocky soil. There are four varieties of this tree. The bark is a powerful astringent, and contains tannin. These trees are not plentiful, and the wood is little known or used, but where a light, tough, and close-grained wood is desirable, wild guava should answer admirably. Its average height is about 60 feet, and it will square 10 inches.

ARRISOUROO. From the Upper Essequebo river, where it grows plentifully in low situations near the river.

This wood is of a dark yellow colour, and has a very bitter taste; it lasts long exposed to the weather, and is not eaten by worms; for these reasons I think it is well adapted for planking vessels, and making estates' kokers. The average height is about 80 feet, and it will square 14 inches free of sap. A decoction of the bark is used for dressing ulcers, and the sap is a remedy for ringworm.

KAMARAKATA. From the Upper Essequebo river.

Kamarakata is a dark-brown, close grained heavy wood, of a bitter taste, and resembles Hackia (Siderodendron triflorum, *Vahl*). It is very lasting, and is used for boat timbers, for which purpose it answers well. It grows in Mahâlcony, and on the Essequebo in low places near the river (often hanging over the water), and on the island, in and above the rapids. Kamarakata is comparatively a short tree, not averaging more than 50 feet in height, but has a large trunk. It can be had to square 22 inches free of sap, of which there is very little.

DUKALA-BALLI. From Moraballi Creek, Essequebo river.

Dukala-balli is a rare tree, and grows in clay and sandy soil. The wood is of deep red colour, heavy and close-grained, and is used for making articles of furniture, bedstead-posts, &c. It makes a fine polish, and is a durable wood. Dukala-balli grows to a large size; its average height is about 120 feet, and it will square, free of sap, 20 inches.

SURADANNI. From the Moraballi Creek, Essequebo river.

Suradanni grows in low situations on the Essequebo river, and is plentiful. The wood is of a deep red colour; grows to a large size, and is used for making canoes, planking, boats, and many other purposes.

CARABA, OR CRAB-WOOD, white variety (*Carapa Guianensis, Aubl.*).

There are two kinds, the white and red, both of which attain to a large size, and are very useful woods. From the trunks canoes are made; and sawn into boards; it is used for making furniture, partitions, flooring, &c. Masts and spars are sometimes made from crab-wood. The seeds yield the well-known 'crab oil,' and the bark is used for tanning. Along with greenheart this is one of the few trees in the colony that has all its parts useful. The average height of a full-grown tree is about 120 feet, and it can be had to square 30 inches. The tree from which this sample came was 170 feet in height and 12 inches in diameter.

FOGLEKOP. From the Itoori-bisci Creek, Essequebo river.

Foglekop grows in sandy soil, and is a light coloured, closed-grained wood of little weight, and is plentiful on the Essequebo and Pomeroon rivers; sawn into

boards it is useful for in-door wood, partitions, doors, &c. Its average height is about 70 feet, and it will square 12 inches. Foglekop bears a small, eatable fruit, the seeds of which contain oil.

HOUBOO-BALLI. From the Itoori-bisci Creek, Essequebo river, where the tree grows plentifully.

The wood is of a light brown colour, variegated with black and brown veins; it takes a fine polish, and is useful for making articles of furniture and cabinet work of any description. Under water it lasts a long time, and on the bottom of a punt or boat will outlast almost any other wood. The tree attains to an average height of about 10 feet, and will square 20 inches free of sap. The bark contains a sticky gum.

SIMIRI OR LOCUST (*Hymenæa Courbaril, Lin.*). From the Itoori-bisci Creek, Essequebo river.

Simiri is abundant, and grows best in white, sandy soil. The wood is hard, heavy, and close-grained, of a brown colour, streaked with veins, and takes a fine polish. It is used for making furniture, mill-bed, and tree nails for planking of ships. There are two varieties of this tree—simiri and k'wanarri, distinguished by the size of their bean-pods; the pulp surrounding the pods of the beans of both trees is edible. The Indians make wood-skin canoes from the bark. The tree yields the gum animi of commerce. The gum is found in large quantities where a tree has rotted away, many barrelsful being often taken from one spot; the gum forms in the inner part of a hollow tree, and it may also be procured in small quantities by tapping.

HIAWA-BALLI (*Omphalobium Lamberti, Dec.*). From the Itoori-bisci Creek, Essequebo river.

This is a rare tree, and its wood is in great request for cabinet-work. It is easily worked and of great beauty. Hiawa-balli grows on sand and rocky soil, and often attains to a large size. Its average height is about 90 feet, and it will square, free of sap, 12 inches. It has a sticky gum similar to houboo-balli (No. 36.)

SIRIBIDANNI, from the Itoori-bisci Creek, Essequebo river.

Siribidanni grows in loose, sandy soil, and is plentiful in some localities. It does not grow to a large size, and the wood is very sappy. The heart is of a purple colour, close-grained and hard, and is useful for inlaying and making furniture. The sap of this wood decays rapidly on exposure to the weather. The average height is about 50 feet, and it will square, free of sap, 4 to 6 inches.

SIMARUPA (*Simaruba officinalis, Dec.*). From the Itoori-bisci Creek, Essequebo river.

Simarupa is plentiful throughout the colony, and grows to a large size on sandy soil and on islands in the river. The wood is of a light colour, light and close-grained, and is one of the most useful woods for partition boards and other inside house-work. Wood-ants will not eat or injure simarupa. The average height of the tree is about 90 feet, and it will square 24 inches. The bark of the root is used medicinally in cases of diarrhœa.

KURAHARA. From the Itoori-bisci Creek, Essequebo river.

Kurahara grows in sandy soil and on the edges of swamps; it is a very straight tree, with dark green leaves. The wood is red, of the colour of cedar, and floats in water; it is used for making canoes, planking boats, and spars. The average height is about 90 feet, and it will square 20 inches, free of sap. Kurahara has a resinous gum not used for any purpose that I am aware of.

K'WANARRI (*Locust*). *See* Simiri.

DUKA. From the Itoori-bisci Creek, Essequebo river.

There are two or three kinds of duka, all growing on dry, sandy soil. The sample is from the largest kind. The wood is light, and sawn into boards, is

useful for in-door house work, tables, &c. Its average height is about 50 feet, and it will square 10 inches.

HACKIA. (*Siderodendron triflorum, Vahl.*).

This tree grows plentifully in some localities on dry, sandy soil, and during the time it is in flower, in the month of November, is one of the most beautiful of our forest trees. At this time, on the side of a hill, the bright yellow flowers of the hackia appear from a distance like a mass of gold against the dark green foliage of the surrounding forest. The wood is exceedingly hard, close-grained, and heavy, and of a brown colour. It is valuable for making cogs and shafts; but is almost too hard for any other purpose. Average height about 65 feet. It will square 12 to 14 inches free of sap.

KUMARA, OR TONKIN BEAN (*Dipterix odorata, Wild.*). From the Itoori-bisci Creek, Essequebo river.

Kumara grows plentifully in some localities; especially above and on the islands in the rapids of the Essequebo river. Kumara is a close-grained, heavy, brown coloured wood, exceedingly tough and durable, and is useful for cogs, shafts, and any other purpose where a strong wood, capable of resisting great pressure, is desired. This tree yields the tonkin-beans, well known in the colony; they are used by the Indians to perfume their hair oil; and when put among clothing, are supposed to keep away moths and other insects. An oil can be extracted from tonkin-beans. Average height about 90 feet, and will square 22 inches.

KURAROO OR BAT-SEED. From the Itoori-bisci Creek, Essequebo river.

Kuraroo is a tree common throughout the colony, and may be seen growing in Georgetown, where it is known as wild olive. Its wood is hard, but not very durable, and is little used; it takes a fine polish, and would be useful for furniture. This tree does not grow very tall, but the diameter of the trunk is great in proportion to its height. Its average height is about 60 feet; and it can be had to square 36 to 48 inches in short lengths.

ARAMATA. From the Itoori-bisci Creek, Essequebo river.

Aramata is comparatively a common tree throughout the colony, and grows on sandy soil. It is a dark coloured, hard wood, and is used in boat-building, house-framing, and sometimes for cabinet work. Its average height is about 80 feet, and it can be had to square 12 inches free of sap. A decoction of the bark is used by the Indians to wash their dogs; and sometimes their own heads, to destroy vermin.

CARABA, or CRAB-WOOD, red variety (*Carapa Guianensis, Aubl.*). *See* Caraba.

WARIKURI, WARACOORI, or WHITE CEDAR. From the Itoori-bisci Creek, Essequebo river.

It grows plentifully in swampy places. With the exception of its bark, it bears no resemblance in any of its parts to kurana or red cedar. White cedar, when full grown, is a dark brown, hard, heavy, and close-grained wood, with a white sap, very durable, especially under ground, but splits on exposure to the sun. It is probably the best wood procurable in the colony for foundations. White cedar grows luxuriantly in the swamps up the Lamaha canal leading into George Town. Its average height is about 60 feet, and it will square 10 inches.

BROWN CIROUABALLI OR SIRUABALLI. From the lands of Mr. William Thompson, Pln. "Adventure," Essequebo.

This tree grows to a large size, and is used like other siruaballis for boat-building, for which purpose they seem specially adapted. It attains to an average height of 90 feet, and can often be had to square 36 inches. *See* Waibaima and Lallifer.

OOLU. From the Itoori-bisci Creek, Essequebo river, where it grows plentifully in loose sandy soil.

The wood has a strong aromatic scent, resembling Hiawa (*Icica heptaphylla Aubl.*), is of the colour of pale cedar, and should be useful for drawers and shelves of wardrobes. Its average height is about 90 feet, and it can be had to square from 16 to 18 inches. Oolu produces a gum resembling hiawa, but in much smaller quantities.

HIAWA (*Icica heptaphylla, Aubl.*). From the Itoori-bisci Creek, Essequebo river.

Hiawa grows plentifully in Essequebo in loose, sandy soil; its wood is little used, as it decays rapidly on exposure to the weather. Like Oolu it has a strong aromatic scent, is light, and should be useful for drawers and wardrobe shelves. This tree produces the gum known as hiawa, or resin of conima, which is burnt as incense. The average height is about 50 feet, and it will square 10 inches.

KUBANA, or RED CEDAR (*Icica altissima, Aubl.*). From the Issororo Creek, Upper Pomeroon river.

It grows to a large size, and is plentiful in some localities, notably so in the Waini; it is also found in the Cuyuni and Corentyne, and in the upper part of the Pomeroon; it grows generally in low situations in clay soil. Red cedar is a most serviceable and valuable wood, and its uses are too well known to require description. The tree averages 100 feet in height, and can be had 38 or 40 inches in diameter. It has very little sap.

WACIBA, WASHIBA, or BOW-WOOD. From the Issororo Creek, Upper Pomeroon river.

Waciba grows to a large size, but it is a rare tree, and little known. Its wood, of an olive colour, is exceedingly tough, hard, and close-grained, and is the best known wood for bows. Its average height is about 120 feet, and it can be had to square 30 inches free of sap.

MORA, white variety (*Mora excelsa, Benth.*), From the Issororo Creek, Upper Pomeroon River.

There are three varieties of mora—known as red mora, white mora, and morabucquia. The first two grow in swamps and near the rivers and creeks, and are both very durable woods. Morabacquia, on the contrary, grows in high situations in clayey, rocky soil, and is not a durable wood. Mora seeds are used by the Indians to make a kind of meal, which is mixed with their cassava. The bark is used for tanning, and medicinally in cases of dysentery. Mora is used in ship-building, and is an exceedingly tough wood, difficult to split, and one of the eight first class woods at Lloyds. Mora grows to a greater size, and is more plentiful in the Barima river than in any other part of the colony. It often attains to the height of nearly 200 feet, but in such cases has generally a hollow trunk; it can be had to square 24 inches, free of sap and holes.

TIBICUSI, or BASTARD LETTER-WOOD. From the Piraka Creek, Pomeroon river.

Tibcusi is a rare wood, only used for bows, walking-sticks, and inlaying cabinet work. The heart is beautifully marked, hard, heavy, and close-grained. The sap decays rapidly on exposure to the weather. Average height about 60 feet and will square 5 inches free of sap.

BUBO-KOBO, BUBRACURBA, PAIBA, or LETTER-WOOD (*Brosimum Aubletii, Poep, Paratinera Guianensis, Aubl.*).

Letter-wood is a rare tree, and the wood is used for the same purpose as tibicusi. It is beautifully marked, close-grained, takes a high degree of polish, and is very heavy. Letter-wood trees are sometimes of large size, but the heart, which is the only useful part, is very small,—a tree of 20 inches in diameter having only 7 inches heart—average height about 60 feet.

KERITEE OR KRETTI. From the Aroua-Piakooroo, Creek, Pomeroon river.

Keritee is a species of sirua-balli, and is plentiful in some localities. The wood has a strong aromatic scent, is light, and in colour and appearance resembles satin-wood; it is useful for partitions and the upper planking of boats. Its average height is about 80 feet, and it will square 20 inches.

KOOROOBOORELLI, or PURPLE-HEART (*Copaifera pubiflora, and Copaifera bracteata, Benth.*) From the Aroua-piakooroo Creek, Pomeroon river.

There are two kinds of purple heart, called koorooboorelli marawinaroo. The bark of the marawinaroo (which is not so durable and with a more sappy wood than Koorooboorelli) is used, as also that of the simiri or Locust, by the Indians, for making canoes or "woodskins." They are sometimes of large size, accommodating 15 or 16 persons. Purple-heart is one of the tallest of our forest trees, and its round top may be easily distinguished rising above the surrounding forest, on the hilly lands of the interior. The wood is of a purple colour, hard, close-grained, durable, and very tough. It is a fine wood for mill-beds, house-framing, &c., and is capable of resisting great strains. Its average height is about 120 feet, and there are many trees nearly, if not quite, 200 feet high. It can be had, free of sap, to square 30 inches.

YELLOW CIROUABALLI, or SIRUA-BALLI. From the Arouapia-kooroo Creek, Pomeroon river.

A light wood of bright yellow colour and strong aromatic scent, used principally for planking boats, and free of sap, is a most durable wood. Yellow sirua-balli often grows to a very large size in loose sandy soil; but is difficult to procure over 12 inches square, free of sap. The average height is about 60 feet. The bark is useful for tanning.

AWATI. From the Aroua-pia-kooroo Creek, Pomeroon river.

Awati is a light wood, of close grain, the colour of white pine, and is useful for indoor work. This wood is little known, and not much used. A decoction of the bark and seeds is used as a wash by the Indians in cases of small-pox, and said to be very effective in healing the pustules. The average height is about 60 feet, and its diameter 16 inches.

KAKARALLI (Lecythis ollaria, *Lin.*)—From the Itoori-bisci Creek, Essequebo river.

There are two kinds of kakaralli common throughout the county of Essequebo—and known as the white and black kakaralli. These woods are close-grained and tough, and of a light brown colour; they are used for house-framing, building wharves, &c. It is said that barnacles will not eat or injure kakaralli. These trees grow tall and straight, but are too heavy to make spars. The inner bark of the white kakaralli is used by the Indians as a substitute for, and in preference to paper, for making their cigarettes, and is called 'ouina.' The average height of the tree is about 80 feet, and it will square 16 inches free of sap.

BUBOORADA. From the Itoori-bisci Creek, Essequebo river.

Buboorado is a large tree, common throughout the colony; it has a large top with reddish-brown leaves. The wood is heavy and close-grained, but it is not well known and is little used. Its average height is about 75 feet, and it will square 20 inches free of sap.

		Exhibited by
3	PIECES OF CARVED WOOD, executed in Euroballi	John Inglis.
100	WALLABA SHINGLES	Exhibition Committee.
2	DITTO VAT STAVES, dressed	Ditto.
2	DITTO DO. DO., undressed	Ditto.
2	DITTO PALING DO., dressed	Ditto.
2	DITTO DO. DO., undressed	Ditto.

FIBRES.

Contributed by EXHIBITION COMMITTEE.

SILK GRASS (*Bromelia Karatas*). This fibre is very strong, and from it the best hammocks are made; it is also used by Indians for bow strings, nets, fishing lines, ropes, &c.

TIBISIBI FIBRE. It obtained from the inner surface of the leaves of the Ita Palm, and is used by the Indians for making hammocks, &c. It is very durable except in damp situations; it can be obtained in great quantities.

JUMBY OCHRO FIBRE.—Used for making lines and ropes.

MAHOE FIBRE.—Strong ropes for drawing timber are made by the woodcutters from this fibre: a small plaited rope made by an Indian will be found in the Ethnological Collection.

Ditto.

WHITE CACABRALLY or HANAW FIBRE. This very beautiful fibre is only used for surrounding the cigarettes of the Indians; it could clearly be made of great service in many ways.

BROWN CACÁRRALLY FIBRE.

QUEACHE FIBRE.

KOOLEKOOAKO FIBRE.

YAHOO FIBRE.

	Contributed by
KOOMAKA COTTON	A. C. Stenson.
SILK COTTON	Ditto.
COCOANUT FIBRE (*for brushes*)	Pln. Fortitude.
Ditto	Ditto.
Ditto	Ditto.

SECTION H.—FOOD PRODUCTS.

CLASSES CX TO CXXXVI.—SUGAR.

	Contributed by Plantation
SUGAR, white	Cane Grove.
DITTO, yellow	Ditto.
DITTO, Demerara refining crystals	Leonora.
DITTO, white	Chateau Margot.
DITTO, yellow	Ditto.
DITTO, white	Farm.
DITTO, yellow	Ditto.
DITTO, non-chemical	Enterprise.
DITTO, ditto	Ditto.
DITTO, dark crystals	Ditto.
DITTO, 1st quality	Tuschen de Vrienden.
DITTO, 2nd quality	Ditto.
DITTO, 3rd quality	Ditto.
DITTO, muscovado	Hamburg.
DITTO, white	L'Union.
DITTO, yellow	Ditto.
DITTO, fine grain	Taymouth Manor.
DITTO, shipping	Ditto.
DITTO, shipping, slightly washed	Ditto.
DITTO, ...	Versailles.
DITTO, white	Cornelia Ida.
DITTO, yellow	Ditto.

		Contributed by Plantation
SUGAR,	grocery crystals	Peter's Hall.
DITTO,	yellow grocery crystals	Windsor Forest.
DITTO,	refining crystals	Mara.
DITTO,	ditto	Hampton Court.
DITTO,	ditto	Ditto.
DITTO,	ditto	Mara.
DITTO,	yellow	Houston.
DITTO,	white	Met-en-Meerzorg.
DITTO,	yellow	Ditto.
DITTO,	white	Reliance.
DITTO,	slightly yellow	Ditto.
DITTO,	yellow	Ditto.
SIX SUGARCANES grown at	... ...	Tuschen de Vrienden.

RUM.

		Contribution by Plantation
RUM,	white	Chateau Margot.
DITTO,	ditto	La Bonne Intention.
DITTO,	ditto	Cane Grove.
DITTO,	ditto	Leonora.
DITTO,	ditto	Ditto.
DITTO,	ditto	Farm.
DITTO,	ditto	Belle Plaine.
DITTO,	ditto	Enterprise.
DITTO,	ditto	Taymouth Manor.
DITTO,	ditto	Cornelia Ida.
DITTO,	ditto	Reliance.
DITTO,	colored	La Bonne Intention.
DITTO,	ditto	Cane Grove.
DITTO,	ditto	Chateau Margot.
DITTO,	ditto	Met-en-Meerzorg.
DITTO,	Whiskey color	Leonora.
DITTO,	Cognac ditto	Ditto.
DITTO,	Shipping color	Ditto.
DITTO,	colored	Enterprise.
DITTO,	ditto	Belle Plaine.
DITTO,	ditto	Farm.
DITTO,	ditto	Tuschen de Vrienden.
DITTO,	ditto	Taymouth Manor.
DITTO,	ditto	Cornelia Ida.
DITTO,	ditto	Reliance.
DITTO,	ditto	Ditto.

STARCHES, FARINES, COFFEE, COCOA, RICE, &c.

		Contributed by
1 Bottle	ARROWROOT STARCH	Exhibition Committee.
1 ditto	SWEET POTATO ditto	Ditto.
1 ditto	BUCK YAM ditto	Ditto.
4 ditto	SWEET CASSAVA ditto	Ditto.
2 ditto	BITTER CASSAVA ditto	Ditto.
1 ditto	COMMON YAM ditto	Ditto.
1 ditto	TANNIA ditto	Ditto.
1 ditto	GUINEA YAM ditto	Ditto.
1 ditto	SWEET CASSAVA FLOUR	Ditto.
1 ditto	TANNIA FLOUR	Ditto.
1 ditto	CONQUINTAY or PLANTAIN MEAL ...	Ditto.

	Contributed by
CASSAVA sliced and dried	Exhibition Committee.
1 Bottle CASSAVA STARCH	Mrs. Carruthers.
1 ditto BREADFRUIT FLOUR	Ditto.
1 ditto ARROWROOT STARCH	Ditto.
1 ditto CONQUINTAY or PLANTAIN MEAL ...	Ditto.
1 ditto BITTER CASSAVA FLOUR	J. P. Murphy.
1 ditto CONQUINTAY or PLANTAIN MEAL ...	Ditto
1 ditto ARROWROOT STARCH	W. MERRIMAN.
1 ditto BITTER CASSAVA STARCH	Ditto.
1 ditto CASSAVA FLOUR	A. C. STENSON.
CASSAVA BREAD	Exhibition Committee.
6 Bottles CASSAREEP	Ditto.

Cassareep is the inspissated juice extracted from the roots of the Bitter Cassava; it is mainly used in this colony in the preparation of Pepper Pot. Dr. Shier in his report on the "starch-producing plants of British Guiana" says:—"To those who have never visited the tropics it may be proper to notice that Cassareep is the concentrated juice of the root of Bitter Cassava, and the basis of the West Indian dish Pepper Pot. One of its most remarkable properties is its high antiseptic power, preserving any meat that may be boiled in it for a much longer period than can be done by any other culinary process. Cassareep was originally a Buck or Indian preparation, and has often been described with more or less accuracy."

	Contributed by
FARINE	Exhibition Committee.
PLANTAIN sliced and dried	Ditto.
1 Sample COFFEE	Ditto.
1 ditto DITTO	J. P. Murphy.
1 ditto DITTO	M. Garnett.
1 ditto COCOA	Pln. Houston.
1 ditto DITTO	M. Garnett.
1 ditto DITTO	W. Smith.
1 ditto DITTO	J. P. Murphy.
1 ditto RICE, cleaned	Pln. Hamburg.
1 ditto DITTO ditto	Mrs. Carruthers.
1 ditto DITTO in straw	Ditto.
1 ditto DITTO ditto	J. P. Murphy.
1 ditto DITTO ditto	Pln. Anna Regina.
1 ditto Chinese RICE	Exhibition Committee.
1 ditto Chinese Glutinous RICE	Ditto.
1 ditto CREOLE CORN	Ditto.
1 ditto INDIAN CORN	Ditto.
1 ditto PIGEON PEAS	Ditto.
1 ditto ESCHALOTS	Ditto.
1 ditto WANGALA	Ditto.

This seed is used in the manufacture of cakes.

1 Sample SOUARIE NUTS	Ditto.
1 ditto TONKA BEANS	Ditto.
1 ditto CHINESE FRUIT (Mardhye)	Ditto.
1 ditto DRIED COCOANUTS	Ditto.

PRESERVED FRUITS, PICKLES, &c.

2 Bottles GUAVA MARMALADE ...	...Exhibition Committee.
4 Ditto DITTO JELLY	Ditto.
2 Ditto Preserved MAMMEE APPLE ...	Ditto.
2 Ditto ditto PINEAPPLE	Ditto.
4 Ditto ditto LIMES	Ditto.

			Contributed by
2 Bottles	GUAVA	ORANGE	Exhibition Committee.
2 Ditto	ditto	GOLDEN APPLE ...	Ditto.
2 Ditto	ditto	TAMARINDS	Ditto.
2 Ditto	ditto	MANGO	Ditto.
2 Ditto	ditto	SEVILLE ORANGE ...	Ditto.
2 Ditto	ditto	CHERRY	Ditto.
2 Ditto	ditto	PAPAW	Ditto.
2 Ditto	GUAVA	JELLY	A. C. Stenson.
1 Ditto	STEWED	GUAVA	Ditto.
1 Ditto	DITTO	GOOSEBERRY	Ditto.
1 Ditto	DITTO	PINEAPPLE	Ditto.
1 Ditto	SORBEL	JELLY	Ditto.
4 Ditto	PICKLES	... ...	Exhibition Committee.
2 Ditto	HOT	SAUCE	Ditto.
6 Ditto	CAYENNE	PEPPER	Ditto.
1 Ditto	GUINEA	PEPPER	Ditto.

This pepper pounded and mixed with water is used by the Indians for dysentery.

1 Sample	DRIED	PEPPERS	Exhibition Committee.
1 Bottle	DITTO	... ...	Hon. B. H. Jones.
2 Ditto	PICKLES	... ...	J. P. Murphy.
2 Ditto	DITTO	... ...	Mrs. Carruthers.
6 Ditto	DITTO	... ...	A. C. Stenson.

SECTION K.—ETHNOLOGY.

Specimens contributed by EXHIBITION COMMITTEE.

COTTON HAMMOCK, made by Indians.
DITTO ditto.
TIBISIRI HAMMOCK, made by Indians.
SMALL TIBISIRI HAMMOCK, made by Indians.
TIBISIRI HAMMOCK WITH COTTON CROSSBARS.
SMALL HAMMOCK USED BY INDIAN WOMEN FOR CARRYING CHILDREN.
THREE PAIRS OF HAMMOCK ROPES, made from silk grass.
BALLS OF COTTON, prepared by Indians.
COTTON WOUND ROUND REELS, prepared for making hammocks.
QUEYUS, INDIAN BEAD ORNAMENTS.
DITTO DITTO.
DITTO DITTO. These are often the only dress of Indian women and in their elaboration frequently display considerable taste.
INDIAN CROWNS, made from parrot and macaw feathers.
DITTO ditto.
DITTO ditto.
NECKLACE, made of the teeth of peccary (*dicotelys torquatus*).
DITTO, made of seed pods.
DITTO, made of greenheart seeds.
ANNATO, used by Indians to paint their bodies.
TWO MATAPIES.—This is used by the Indians for extracting the juice from the cassava after it has been grated on a simarri or grater. It is first compressed as much as possible in order to make its diameter very large; it is then filled with the grated cassava and suspended from the roof of the house and stretched by means of a beam through the loop at the bottom; by this means the diameter of the Matapie is greatly lessened, and the juice is thus expressed.
SIFTERS.—Used for sifting cassava meal and holding cassava bread.
INDIAN TRAYS, made from the Ita palm for putting food on.

INDIAN PORTERAGE BASKET with slide to fit inside, made of Pegall work.
INDIAN PEGALL.
DITTO.
DITTO.
INDIAN GOGLET.—Painted.
DITTO.
INDIAN GOGLET.—Black.
DITTO.
SMALL INDIAN GOGLET.
DITTO.
INDIAN POT, with cover.
DITTO.
SMALL INDIAN POT.
DITTO.
DITTO.
GOURD used by Indians for carrying small articles.
DITTO.
LETTER WOOD BOW, with complete set of arrows.
DITTO.
ORDINARY BOW, with complete set of arrows.
DITTO.
BUNDLE of SHAFTS for making arrows.
WAX on STICK for fixing arrow heads to shaft.
This is the Caraman or Buck wax, a large sample of which is shown in another section.
INDIAN BLOWPIPE.—This Indian blowpipe consists of an inner and outer tube, the outer one being simply to protect the straight smooth tube inside from injury.
ARROWS for BLOWPIPE, tipped with Ourali poison.
These arrows are inserted into the end of the Blowpipe, a small plug of cotton being put on their end, aim is then taken and the arrow projected by a sudden breath. The Ourali poison on the arrows has the effect of speedily paralysing any living object struck.
INDIAN CLUB.
SMALL TOY CLUB, made by Indians.
INDIAN BAG, made of Jaguar skin.
MODEL CORIAL OR DUG-OUT, with four paddles and fittings.
Corials of this description are most extensively used by Indians. They are hollowed out from the trunk of a single tree and are often of great size. Silverballi is the favourite wood for making corials from.
TWO INDIAN PADDLES.
LARGE STEERING INDIAN PADDLE, with round blade.
SET OF INDIAN FANS.
SHAAK-SHAAK OR RATTLE.
These are used by Indians during dances.
SEED RATTLE STRUNG ON A COTTON THONG.
DITTO.
INDIAN DRUM.
INDIAN TASSELS, made from birds strung through the beak.
FOUR SAMPLES OF TOBACCO, grown and prepared by Indians.
ROPE OF MAHOE FIBRE, made by an Indian.

	Specimens contributed by
THREE ORNAMENTAL PADDLES	... William Fresson.
FORTY-TWO PAINTED CALABASAES ...	... Exhibition Committee.
SIXTEEN WALKING STICKS, made from colony woods	... Ditto.
THREE COOLIE PIPES, used for smoking bhang	... Ditto.
SIXTEEN COCOANUT DIPPERS, with letter wood stem	... Ditto.
CUFFUM SCALES	... Sarah D. Tush.

CEYLON.

SECTION A.—FINE ARTS.

CLASSES I TO VI.

W. L. H. SKEEN AND Co., Colombo.—Photograph of ruined cities and views, Photographic Album.
JOHN WALKER AND Co., Colombo Iron Works.—Photographs of coffee pulpers.

SECTION B.—EDUCATION AND APPLICATION OF LIBERAL ARTS.

CLASSES VII TO XV.

F. LUKER (Government Printer), Colombo.—Printed books.
J. CAPPER, Colombo.—"Old Ceylon."

SECTION C.—HEALTH.

CLASSES XVI TO XXII.

CINCHONA BARK.

THOMAS NORTH CHRISTIE, Maskelia, Ceylon.—

	Age of trees.	Mean altitude of estate.
	Years.	Feet.
Succirubra, natural quill and shavings	8	4,300
Do. renewed do.		
Do. root		
Officinalis, natural quill and shavings	6	4,800
Do. renewed do.		
Do. root		
Officinalis, var. *Crispa*, natural quill and shavings ...	6	5,000
Do. do. renewed do. ...		
Do. do. root ...		
Ledgeriana, natural quill and shavings	6½	4,100
(*Average analysis* 10·30. *Sulphate quinine*)		
Do. renewed do.		
Do. root		
Calisaya, var. *Javanica*, natural quill and shavings ...	7½	4,000
Do. do. renewed do. ...		
Do. do. root ...		
Calisaya, var. *Kassharliana*, natural quill & shavings	3	4,200
Do. do. renewed ...		
Do. do. root ...		

	Age of trees.	Mean altitude of estate. feet.
Robusta (succ. offici. hybrid), natural quill and shavings	10	4,500
Do. renewed		
Do. root		
Ledgeriana, Succirubra, hybrid, natural, quill and shavings	4½	4,200
Ledgeriana, Officinalis hybrid do. ...		
Calisaya, succ. hybrid (C. Anglica) do. ...		

Section of Stem of a Ledgeriana Tree.

Flowers and leaves of C. Hybrid (*succ. Ledg.* hybrid).
Do. do. C. Hybrid (*Ledg. offici.* hybrid).
Do. do. C. Anglica (*cal. succ.* hybrid).
Do. do. C. Calisaya, (Var. *Hasskarliana*).
Do. do. Officinalis, Var. *crispa*.
Do. do. Succirubra.
Do. do. Robusta.
Do. do. Officinalis.
Do. do. Ledgeriana.
Do. do. C. Calisaya, Var. *Javanica*.
Officinalis, natural quill and shavings.
Do. renewed quill and shavings.
Do. roots.

W. SMITH, *Mattakelly Estate*.—

Cinchona Calisaya Ledgeriana stem quill.

W. D. BOSANQUET, *Le Vallon Estate*, Pusselawa.—

Elevation about 3,200 *feet.*

	Age of trees.
Calisaya, original bark	5 years.
Do. original and renewed	4 „
Succirubra, original and renewed	2½ „
Do. original	4 „
Do. original and renewed	2½ „
Do. original bark	2 „
Calisaya, original renewed	4 „
Succirubra, renewed	4 „
Calisaya, hybrid, original renewed	4 „

W. D. BOSANQUET, *Gallway Knowe Estate*.—

Elevation about 3,600 *feet.*

Robusta, original bark	7 „
Do. renewed bark	7 „
Succirubra, renewed bark	4 „
Do. do.	7 „
Do. do.	7 „
Robusta, original bark	9 „
Succirubra, renewed bark	10 „
Do. original bark	4 „
Do. do.	10 „
Do. do. red fungus	10 „

Age of trees.

W. D. BOSANQUET, *Hermitage Estate.*—

Elevation about 4,000 *to* 4,270 *feet.*

Officinalis, original and renewed	...	...	4 years.
Robusta do. do.	...	...	9 ,,
Officinalis do. do.	...	...	4 ,,

W. D. BOSANQUET, *Pittawelleloya Estate.*—

Elevation about 4,000 *feet.*

Officinalis, with red fungus, original	...	...	6 ,,

W. F. LAURIE, *Yarrow Estate*, Pussellawa.—

C. Robusta	...	...	5½ ,,
C. Ledgeriana, hybrid	...	...	5½ ,,
C. Ledgeriana	...	...	5½ ,,
Ditto	...	...	5½ ,,
Ditto	...	...	5½ ,,

(*Average analysis* 14·50 *Sulphate quinine.*)

C. Ledgeriana ... ... 5½ years.

(*Average analysis* 12·30, *Sulphate quinine.*)

Do. ... ...

(*Average analysis* 11·40, *Sulphate quinine.*)

C. Ledgeriana ... ...

(*Average analysis* 11·30, *Sulphate quinine.*)

Do. ... ...

C. T. ANDERSON, *Troup Estate*, Dimbula.—

Elevation about 4,000 *feet.*

Hybrid, Cinchona ... ... 6 to 8 years.

MESSRS. WHITTALL & Co., Colombo.—

From Dunkeld Estate, Dickoya.

Succirubra, stem quill.

MESSRS. WHITTALL & Co., *Kirklees Estate*, Uda-Pussellawa.—

Elevation about 8,000 *to* 5,000 *feet.*

(Principally eastern aspect, with part western. Very steep and rocky, with undulated basins of deep chocolate loam. Average annual rainfall for last 7 years, 94 inches, wet months, January, October, November, and December. The most of the cinchona is grown in vacancies among the coffee, and the land has grown coffee with splendid returns for the last 30 years; some fields are 40 years old. Clearings 4 years old, planted on Patna land. Succirubra and Calisaya come on slowly.)

Succirubra, natural shavings, 7 years old trees gave S. of quinine net 3·20 per cent.

Hybrid, 7 years old trees gave net 3·72 per cent.

Officinalis, 5 years old trees gave 4·10 per cent.

Age of trees.

Succirubra, 1 quill, natural bark	...	...	2 years.
Do. 1 quill, renewed	...	...	2 ,,
Do. 2 quills, renewed	...	...	10 ,,
Do. 1 quill, natural	...	...	7 ,,
Do. 2 quills, renewed	...	...	7 ,,
Do. 9 quills, natural bark	...	...	5 ,,
Do. 1 quill, renewed	...	...	5 ,,

	Age of trees.
Robusta, 1 quill, natural bark	10 years,
Do. 1 quill, renewed bark	10 „
Do. 6 quills, natural bark	6 „
Do. 2 quills, renewed	5 „
Do. 2 quills, natural bark	4 „
Hybrid, 2 quills, natural bark	10 „
Macrantha, 1 quill, natural bark	10 „
Pubescens, 2 quills, natural bark	6 „
Officinalis, 3 quills, natural bark	7 „
Do. 4 quills, renewed bark	6 & 7 „
Do. Var. *Conde*. 3 quills, natural bark ...	5 „
Do. do. 3 quills, renewed bark ...	5 „
Officinalis, Var. *Crispa*, 4 quills natural bark ...	6 „
Do. do. 3 quills, renewed bark ...	6 „
Ledgeriana, Java, 2 quills, natural bark	4 „
Calisaya, 3 quills, natural bark	4 „
Do. Var. *Javanica*, 2 quills, natural bark ...	4 „
Do. Var. *Vere*, 2 quills, natural bark	4 „
Succirubra, 1 shaving, natural bark	
Do. 2 shavings, renewed bark	
Robusta, 1 shaving, natural bark	
Officinalis, 1 shaving, natural bark	

SECTION D.—OBJECTS OF THE USE OR DECORATION OF DWELLING HOUSES OR OTHER BUILDINGS.

CLASSES XXIII TO XXXVII.

LEBBE BROTHERS, Colombo.—Ivory carved work, tortoise-shell work, porcupine quill boxes.

ART-WORK ASSOCIATION, Kandy.—Pottery, Embekkeware.

(Twenty series of large painted tiles, representing scenes from the "Great Perahera"; eleven series of large painted tiles representing the "Dhamma Sonda Vatthu"; five series of small painted tiles representing the "Nawa Nari Kunjari" designs; large and small plates decorated with the "Hansa Putuwa," "Gaja Sinha," and other Buddhist patterns; large and small chatties and bowls, with Buddhist designs and flower patterns and miscellaneous designs.)

Kandyan swords and knives.

Silverwork.

(Six large "Hepuwas"; six small "Hepuwas"; four card trays and patens; one set "Ratemahatmeya" spoons; tortoise-shell and silver box; cocoanut-wood walking sticks, silver mounted; two "Kellottes," or chunam-holders; miscellaneous silverwork).

Dumbara mats.

Selected specimens of lacquer work.

(Pair of "Anwattu Miti," or slate fans used at the "Great Parahera.")

Kandyan spears.

Kandyan walking sticks.

Ivory carvings.

Priest's fans.

"Hepuwas."

Figures of Kandyan chief and wife, &c.

Miscellaneous exhibits.

H. C. P. BELL, Colombo.—Maldivian mats.

SECTION E.—OBJECTS OF PERSONAL WEAR OR USE.

CLASSES XXXVIII TO LII.

STREETER AND Co., Colombo.—Collection of Ceylon jems.

SECTION F.—RAW PRODUCTS AND MANUFACTURES FROM PRODUCTS NOT INCLUDED IN OTHER SECTIONS.

CLASSES LIII TO LXXXI.

M. MOONEY, Colombo.—Coir door mats.
G. AND W. LEECHMAN, Colombo.—Coir fibre, matting, door mats, King cocoanuts, and ordinary nuts.
DITTO, Gikeyana Kanda.—Citronella oil.
DITTO, *Hultsdorf Mills.*—Cocoanut oil.
DITTO, *ditto.* —Cocoanut oil soap.
C. H. DE SOYSA, Colombo.—Cocoanut oil.
DITTO, ditto. —Cinnamon oil.
J. P. WILLIAM AND BROTHERS, Heneratagoda.—Pepper, areca-nuts, manilla hemp, orchilla weed, Kahata bark, vanuvil, sapan wood, halmalillo, heenely paddy, mica.
J. K. INGLETON, Dumbara.—Cigars and cheroots.

SECTION G.—APPLIANCES AND PROCESSES USED IN THE COMMON ARTS AND INDUSTRIES.

CLASSES LXXXII TO CIX.

VON POSSNER AND WALKER, Colombo.—Patent ice safe.
JOHN WALKER AND Co., *Colombo Iron Works.*—Box shaver for chinchona, spoke-shave for chinchona. Two cardamom scissors, one large Ceylon road tracer, and one small road tracer.

SECTION H.—FOOD PRODUCTS.

CLASSES CX TO CXXXVI.

G. AND W. LEECHMAN, *Hultsdorf Mills.*—Arrow-root.
J. P. WILLIAM AND BROTHERS, Heneratagoda.—Arrow-root.
VON POSSNER AND WALKER, Colombo.—Aerated waters.
N. S. FERNANDO, Colombo.—Nutmegs and cloves.
S. DE RAJEPAKSE, Colombo and Kaderane.—Cinnamon.
J. DRIEBERG, Jaella.—Cinnamon.
C. H. DE SOYSA, Colombo.—Cinnamon.
A. AGAR, Ensi Castle.—Cardamoms.
T. C. OWEN, Oonoongalla.—Cardamoms.
D. MACKAY, Enselwattie.—Cardamoms.
M. H. THOMAS, Madoolketter.—Cardamoms.
T. C. OWEN, Avishavella.—Cardamoms.
D. MACKAY, Farndale.—Cardamoms.
H. J. VOLLAR, Pallekella.—Cocoa.

J. K. INGLETON, Rajwella.—Cocoa.
WM. FORBES LAURIE, Delgolle.—Cocoa.
J. VANDER POORTEN.—Cocoa beans.
LEE, HEDGES AND Co., Liberia.—Liberian Coffee.
H. DRUMMOND DEANE, Kintyree.—Arabian Coffee.
F. BYRDE, Wellington.—Arabian coffee.
WHITTALL AND Co., Louisa.—Arabian coffee.

TEA.

ESTATES.	Mean altitude of estate.	Annual rainfall.	Age of trees.
	Feet.	Inches.	Years.
ARTHUR E. SCOVELL, *Strathellie* ...	2,500	180	4 to 7
DUNCAN MULLENS, *Adam's Peak* ...	4,000	170	4
C. S. ARMSTRONG, *Rookwood* ...	5,000	80	7
H. G. PARSONS, *Calsay*	—	—	—
A. E. WRIGHT, *Gneiss Rock*	—	—	—
LEECHMAN AND Co., *Kadawella* ...	2,200	130	5
MACKWOOD AND Co., *Galleboddle Estate*...	—	—	—
J. ROYDON HUGHES, *Gallebodde* ...	2,450	180	5
D. MACKAY, *Sembawattie*	—	—	—
J. BOUSTEAD, *Campden Hill*	—	—	—
FRANCIS L. SHAND, *Barra*	—	—	—
R. ASPLAND, *Norton*	—	—	—
C. A. HAY, *Blackwater*	—	—	—
GEO. KYD, *Windsor Forest*	2,750	200	4 to 7
T. C. OWEN, *Avisawella*	400	160	3
T. C. OWEN, *Oonoonagalla*	4,500	105	5 to 9
LEECHMAN AND Co., *Culloden*	350	85	4
D. MACKAY, *Mariawattie*	2,300	100	5
W. FORSYTH, *Dunedin*	—	—	—

MALTA.

SECTION E.

BOORG (M.).—Maltese lace.
TURNBULL AND SOMERVILLE.—Maltese lace.

SECTION F.

TURNBULL AND SOMERVILLE.—Cigarettes.

MAURITIUS.

SECTION B.—EDUCATION AND APPLICATION OF LIBERAL ARTS.

CLASSES VII TO XV.

ASHLEY (W.), Superintendent of Government Schools.—Reports of Department from 1878 to 1882.
BAISSAC (C.).—Etude sur le patois Créole.
DESCUBES (A.)—Map of the Island of Mauritius.
MESSERVY (A.), Rector of the Royal College.—Calendars, 1881-82 and 1882-83.

SECTION F.—RAW PRODUCTS AND MANUFACTURES FROM PRODUCTS NOT INCLUDED IN OTHER SECTIONS.

CLASSES LIII TO LXXXI.

BRUNAND (E.) AND SÉNÉQUE, Mahebourg.—Slaked lime, caustic lime.
CHAZAL (T. DE)—Sample of silk, year 1818.
CHAZAL MOON (MADAME DE).—Sample of silk, year 1850.
DESCROIZILLES (MADAME).—Sample of silk, year 1870.
FERME MODELE DE CHEBEL; E. Lienard, Petite Riviere.—Ostrich feathers.
MAGASIN GENERAL DES HUILES.—Cocoanut oil.
HORNE (T.), Director, Botanical Gardens, 34 sections of colonial woods.—Collection of fibres—

Acanthophoenix crinata, Wend., Palmæ.
Acromia sclerocarpa, Mart., Palmæ.
Agave Angustifolia, Haw, Liliaceæ.
„ Mexicana, Haw, ditto.
Alocasia macrorhiza, Schott., Aroideæ.
Aloe variegata, Liliaceæ.
Alpininea calcarata, Rox., Zingiberaceæ.
Alpininea magnifica, Rox., Zingiberaceæ.
Ananassa sativa, Lind., Bromeliaceæ.
Areca catechu, Linn., Palmæ.
„ lutescens, Bory, do.
„ Madascariensis, Stadt., do.
„ sapida do., do.
Arenga sp.
Artocarpus incisa, Linn., Moreæ.
„ integrifolia, Linn., do.
Astrapœa Willichii, D. C., Byttneraceæ.
Bactris flavrispina, Palmæ.
Bauhinia acuminata, Fabaceæ.
„ Malabarica, do.
„ Richardsonii, do.
Barringtonia speciosa, Linn., Barringtoniaceæ.
Berrya Hamonilla, Roxb., Zilliaceæ.
Bonapartea juncea R. & P., Bronzeliaceæ.
Borassus sp., Palmæ.
Butea superba, Roxb., Fabaiceæ.
Calamus Roxburgii, palmæ.
Carludovica palmata, Pandanaceæ.
Caryota Rumphiana, Palmæ.
„ sp., do.
„ urens, Linn., do.
Cocos flexuosa, Mars., do.
„ nucifera, Linn., do.
Colocasia antiquorum, do.
Cordia myxa, Linn., Cordiaceæ.
Corypha Australis, R. Br., Palmæ.
„ umbraculifera, do.
Cyperus polystachus, Roth., Cyperaceæ.
Deckenia nobilis, Wendl., Palmæ.
Dutyosperma alba, do. do.
„ rubra, do. do.
Dombeya acutangula, Cav., Bytneriaceæ.
Dembeya umbellata, do., do.
Dracuna Brasiliensis, Liliaceæ.
„ Mauritiana, Lamk., do.
Dypsis sp., Palmæ.
Elais Guinensis, Jacq., do.
Ficus elastica, Roxb., Moreæ.
„ mangifera, do.
„ Mauritiana, Lamk., do.
„ sp, do.

Ficus religiosa, Linn., Moreæ.
„ rubra, Wall., do.
„ salicifolia, do.
„ sp., do.
„ sp., do.
Fourcroya gigantea, Vent., Liliaceæ.
Guazuma tomentosa, H. B. K., Sterculiaceæ.
Heliconia sangainea, Musaceæ.
Hibiscus mutabilis, Linn., Malvaceæ.
„ sp., do.
Hyophorbe amaricaulis, Palmæ.
„ Verschaffeltii do.
Hyphæne Schatan, Bojer., do.
Hentia Wendelliana, do.
Latania Lodigesii, do.
„ Mauritiana, do.
„ Verschaffeltii, do.
Lienola horrida, do.
Livistonia altissima, do.
„ Hoogendorpii, do.
„ humilis, R. Brown, do.
„ Mauritiana, Wal., do.
Lodoicea, Sechellarum, Labil., do.
Malvaviscus arboreus, Caw., Malvaceæ.
Morus alba, Linn.
Musa Chinensis, Musaceæ.
„ Coccinea, do.
„ Gengeli, do.
„ (Matelot), do.
„ sp., do.
„ sp., do.
„ textilis, do.
„ violacea, do.
Sophrosperma Van Houteana, Balf. fil., Palmæ.
Oreodoxa oleracea, Palmæ.
„ regia, do.
Oreodoxa Elais, Palmæ.
Phœnix dactylifera, Linn., do.
„ Olfersii, do.
„ rupicola, do.
Pterospermum acerifolium, Wild, Bytterniaceæ
Ropolocarpus lucidus, Bojer., Tiliaceæ.
Ravinala Madascariensis, Sonn., Musaceæ.
Ridelia tiliacfelia D. C., Byttneriaceæ.
Sabal Adansoni, Guerus, Palmæ.
„ sp., do.
„ umbraculifera do.
Sagus ruffia, Jacq., do.
Sanseviera cylindrica, Bojes., Liliaceæ.
„ Latifolia, do.
„ zeylanica, Wild., do.
Sapindus emarginatus, Wahl., Coxsignya.
Seaforthia elegans, R. Brown, Palmæ.
Sida carpinæfolia, Linn., pil, Malvaceæ.
„ glutinosa, Cav., Malvaceæ.
Sterculia balangas, D. C., Sterculiaceæ.
Stevensonia grandifolia, Duncan, Palmæ.
Strelizia Angusta, Thun., Musaceæ.
Theobroma Cacao, Linn., Byttneriaceæ.
Verschaffeltii splendida, Wendl., Palmæ.
Wikstromia vividiflora, Meissn., Thymelaceæ.
Yucca aloifolia, Linn., Liliaceæ.
„ filamentosa, Linn., do.
„ gloriosa, Linn., do.
„ variegata „ do.

JOSEPH (E.).—24 bottles snuff.

MONT CHOISY HEMP ESTATE Co.—Pamplemousses; aloe fibre.

SECTION H.—FOOD PRODUCTS.

CLASSES CX TO CXXXVI.

DRURY.—Wines.

EXHIBITION COMMITTEE.—Creole coffee.

SUGAR.—Samples from the following estates:—

"BELLE VUE," Flacq. Mrs. Allendy & F. Lecourt de Billot.—
Vesou sugar.
1st Syrup „
2nd Syrup „

"MON DESERT," Grand Port. T. Thierry.—
Vesou sugar, best white crystallized.

COMPAGNIE SUCRIERE DE MON DESERT, Moka.—
Sugar extra large white crystals.

"UNION & BEL AIR" SUGAR ESTATE Co., Savanne.—
Vesou sugar.
Syrup „

"TERRACINE," SAVANNE, Messrs. Cassaignes & Co.—
Vesou sugar.
1st Syrup sugar.

"UNION," Flacq. Mrs. Bourgault de Condray.—

Vesou sugar.
1st Syrup sugar.
2nd Syrup sugar.

"BELLE ROSE," Flacq. V. Boulle & Co.—
Vesou sugar
1st Syrup sugar.
2nd Syrup sugar.

"ST. JULIEN" CENTRAL SUGAR ESTATE Co., Flacq.—
Sugar extra large, 1st clear crystals.

"SAVANNAH," Savanne. Mrs. Jannin.—
Brewers' crystals.

"QUEEN VICTORIA," Messrs. Desveaux de Marigny.—
Vesou sugar.
1st Syrup sugar.
2nd Syrup sugar.

"COMBO," Savanne. Highlands Sugar Estate Co.—
Sugar extra large crystals.
Sugar medium crystals.

"LA FLORA," Savanne. M. Sauzier.—
Sugar medium crystals.

"BON ACAUEIL," Flacq. Mrs. Boyer de la Giroday —
Vesou sugar.

"*HIGHLANDS*," Plaines Wilhems. Highlands Sugar Estate Co.—
Sugar extra large white crystals.
„ large white crystals.
„ large crystals.
„ extra white.
„ extra white crystallized.
„ finest crystallized yellow.

"DEEP RIVER," Flacq. L. Mazery & Co.—
Vesou sugar.
1st Syrup sugar.

"RICH FUND," Flacq. Arnaud & Co.—
Vesou sugar.
1st Syrup sugar.

"BOIS CHERI," Savanne, G. Guibert, Delafaye and Co.—
Vesou sugar.
1st Syrup sugar.

"MAISON BLANCHE," Pamplemousses Sugar Estate —
Finest Crystallized Yellow sugar.

"RICHE BOIS," Savanne. Mauritius Sugar Estate Co.—
Vesou sugar.
1st Syrup sugar.
2nd Syrup „

"ETOILE," Flacq.—
Vesou sugar.
1st Syrup sugar.
2nd Syrup sugar.

"ROSALIE," Pamplemousses, Mauritius Sugar Estate Co.—
Vesou sugar.
1st Syrup sugar.
2nd Syrup „

BAISSAC POCHARD & Co.—12 bottles lemonade.

BANDON (A.) AND Co., Varsailles, Riche Terre.—A case of vanilla pods.

DUMONTES (MON.), Grand Port.—Creole rice.

DE ROSNAY, JOLY, Langlois.—Vanilla pods.

EMMERRZ, (N. D.) Grand Don jon.—1 Case cloves.

JOLY & Co.—2 Cases vanilla pods.

LANGLOIS (JOSEPH), Seychelles.—Vanilla pods.

MARTIAL (F.).—3 Bottles Eau de vie de Bibasse; 3 bottles liqueur. Cacao; 2 bottles Noyau Bibasse; 2 bottles Noyau Orange.

MONTILLE (DE), Savanne.—Cinnamon.

PIPON (MRS.), La Chaumiere, Savanne.—Arrowroot powder.

WATSON (JAMES).—Sparkling lemonade.

SECTION I.—AGRICULTURE AND HORTICULTURE.

CLASSES CXXXVII TO CXLIII.

ROYAL SOCIETY OF ARTS AND SCIENCES.—3 Cocos de Mer Lodvicea. Sechellarum.

PELTE (MISS).—Collection of seeds of forest plants.

STRAITS SETTLEMENTS.

SECTION A.—FINE ARTS.

CLASSES I TO VI.

STRAITS SETTLEMENTS, THE GOVT. OF.—Photographs.

SECTION C.—HEALTH.

CLASSES XVI TO XXII.

DESILVA (APOTHECARY), Government Medical Department, Singapore.—Patent hospital bed for fractures.
GOODENOUGH (R. B.), Singapore.—Dysentery powders.
SELANGOR, THE GOVT. STATE OF.—165 specimens of native medicines collected in the Malay State of Selangor; prepared and used by Chinese.

SECTION D.—FURNITURE AND OTHER OBJECTS FOR THE USE OR DECORATION OF DWELLING HOUSES AND OTHER BUILDINGS.

CLASSES XXIII TO XXXVII.

FO HUP, Perak.—Specimens of tins plashes. Specimens of block tin ware.
JOHOR, H. H. THE MAHARAJA OF, G.C.M.G., K.C.S.I.—A pair of antique Malay earthenware water jars.
MAXWELL (HON. W. E), Singapore.—Specimens of Malay hangings; mats and embroideries.
SELANGOR, THE GOVT. STATE OF.—Specimens of block tin ware.
STRAITS SETTLEMENTS, THE GOVT. OF.—Cane chairs and tables; cane matting; specimens of Malay mats.

SECTION E.—FABRICS, INCLUDING APPAREL.

CLASSES XXXVIII TO LII.

JOHOR, H. H. THE MAHARAJA OF, G.C.M.G, K.C.S.I.—Specimens of Malay clothing.
STRAITS SETTLEMENTS, THE GOVERNMENT OF.—Silk sarongs; veil and handkerchief.
SWETTENHAM (F. A).—Specimens of Malay clothing.

SECTION F.—RAW PRODUCTS AND MANUFACTURES FROM PRODUCTS NOT INCLUDED IN OTHER SECTIONS.

CLASSES LIII TO LXXXI.

AYER ITAM COIR COMPANY, Penang.—Coir fibre.

BRANDT AND Co., Singapore.—Split rattans for chair-making, No. 1 and No. 2 quality; rattan, coir in different sizes and numbers; rattan splints, planed, different size and numbers; rather splints, rough, different sizes and numbers; rattans, coarse, for tying, rope-making, &c.; rattan shavings for mats, ropes, hawsers, and rooms; rough shavings dyed with aniline dyes; brooms, mats, ropes, rattan shaving frise (for stuffing mattresses).

DELI AND LANGKAT CIGAR AND CIGARETTE MANUFACTURING COMPANY, Penang.—Samples of various brands of cigars and cigarettes made from tobacco grown in Sumatra.

FISHER (J), Singapore.—Citronella oil; pepper oil; nutmeg oil; patchouli oil; nutmeg paste or fixed oil of nutmeg; essential oil obtained from the seeds of the balsam of peru (Myroxylon Peruræ); cocoanut oil, vegetable tallow (minyak tinkawang), oil cake.

GOODENOUGH (R. B.), Singapore.—Extract of neraattum, permanent dye; extract of neraattum for tanning.

JOHOR STEAM SAW MILLS COMPANY.—Specimens of useful Malay timbers.

NEWTON (HOWARD), Singapore.—Specimens of Malay woods.

PATERSON SIMONS AND Co., Singapore.—Specimens of India-rubber and gutta-percha; rattans, various specimens; gum copal; cube gambier.

PERAK, THE GOVERNMENT STATE OF.—Specimens of tin oxide and wash dirt from Kamunting district.

Specimens of tin oxide from Assam, Kumbang district.

Ditto ditto from Tupai district.

Ditto ditto from Salak district.

Ditto ditto and wash dirt taken at various heights up to 3,400 feet in the Larut and Salak districts.

Specimens of oxide of tin and quartz, from Larut, Salak, Kinta and Batang Padang.

Specimens of smelted tin from Salak.

Ditto ditto from Tupai, Larut.

Ditto ditto from Kamuntingz Larut.

Ditto ditto from Assam Kumbang, Larut.

Samples of wash dirt, wash tin ore and various strata in which tin is found in Perak.

Specimens of gutta.

SELANGOR, THE GOVERNMENT STATE OF.—Specimens of tin oxide, wash dirt and smelted tin from various mines in Selangor.

Specimens of gutta grip, gutta putele, and gutta taban.

Specimens of damar (the arsenious exudation from trees).

STRAITS SETTLEMENTS, THE GOVERNMENT OF.—Krang shell.

SECTION H.—FOOD PRODUCTS.

CLASSES CX TO CXXXVI.

BASTIANI (J.), Singapore.—Conserves d'ananas au naturel; conserves d'ananas au sirop; sirop d'ananas.

BROWN, LAWRENCE (C.), Manager, Gleyar Estate, Penang.—Mace; white sugar, and molasses.

CERRUTI (F), Singapore.—Preserved ananas.

DE MORNAY (HENRY), Malakoff Estate, Province Wellesley, Penang.—Tapioca.

FAVRE (C.), Singapore.—Conserve d'ananas au naturel; pineapple in syrup; preserved durian; preserved mangosteen; jack fruit; bread fruit palm fruit and papaya in syrup; crystallized pineapple, ginger and papaya; soursop, nutmeg and guava jelly; pineapple marmalade.

GLUGOR ESTATE, Penang (Brown and Co.).—Nutmegs; mace.

GOODENOUGH (R. B), Singapore.—Astringent bitters.
HILL, LISTER AND KAY, Linsum estate, Sungei Ujong.—Liberian coffee; cocoa.
JOHOR COFFEE COMPANY, Johor.—Liberian coffee; coffee Arabica.
JOHOR TEA COMPANY.—Pekoe Souchong; orange pekoe; pekoe fannings.
KNAGGS (W. Walter), Singapore Club.—Tapioca.
MALAKOFF ESTATE, Penang, (Mr. deMornay).—Tapioca flour, flake and seed.
PATERSON SIMONS AND Co., Singapore.—Black pepper; white pepper; sago flour, Batu Pahat Company; sago large, medium and small pearl, Singapore; tapioca flour and small flake, Singapore; tapioca flour, small and medium flake, small, medium and large pearl, Malacca.
PENANG PLANTATIONS COMPANY (*E. L.* Roberts).—Tapioca flour, flake and pearl.
PERAK, THE GOVERNMENT STATE OF.—Liberian coffee in parchment.
PULSFORD (FRANCIS), Manager, Trans-Rean Estate, Penang.—Rum; refined sugar.
SANDILANDS (HON'BLE G. M.), *Penang*—Pepper.—Acheen, Penang, West Coast, Sumatra and Trang.
SELANGOR, THE GOVERNMENT STATE OF.—Specimens of ghee.
TRAFALGAR ESTATE, Singapore (Mr. Knaggs).—Tapioca flour; tapioca flake, small, fine, medium and bullets; pearl tapioca.

SECTION I.—AGRICULTURE AND HORTICULTURE.

CLASSES CXXXVII TO CXLIII.

GLUGOR ESTATE, Penang.—Specimens of rice grain.

SECTION K.—ETHNOLOGY, ARCHÆOLOGY, AND NATURAL HISTORY.

CLASSES CXLIV TO CXLIX.

MAXWELL (HON'BLE W. E.), Singapore.—Collection of Malay weapons.
SELANGOR, THE GOVERNMENT STATE OF.—Models of boats; fishing stakes and nets used by Malays.
STRAITS SETTLEMENTS, THE GOVERNMENT OF.—Collection of stuffed birds from Malacca.
SYERS (H. C.), Selangor.—Skulls of Malay animals.
WALKER (CAPT.), 28th Regiment, Perak.—Collection of Malay weapons.

NEW SOUTH WALES.

SECTION A.—FINE ARTS.

CLASS I.—PAINTINGS AND DRAWINGS.

COLLINGRIDGE, ARTHUR, Ryde, Parramatta River, near Sydney.—Water-colour drawing—View of a creek on the Hawkesbury River, N. S. W. (For sale.) Price £12 12s.

Oil painting—Making the first locomotive engine in N. S. W. (For sale.) Price £15.

Water-colour—Her Majesty's mail stuck-up. Flood scene in N. S. W. (Not for sale.) Belonging to the Art Society of New South Wales, by whom it is lent for exhibition.

FRANKLIN, F. A., C. E., J. P., Buona Vista, Wollongong.—View of Sydney Harbour in 1880.

HALLIGAN, MRS. G. H., Eugowra, Hunter's Hill, near Sydney.—Oil painting—The forest beauties of New South Wales—Waratah and Clematis.

PIGUENIT, W. C., Hunter's Hill, near Sydney.—Oil paintings—

Sydney in 1882; taken from north shore, showing garden palace, in which the International Exhibition of 1879 was held; destroyed by fire, 22nd September 1882.

Mount Kosciusko and the Valley of the Upper Murray. (Property of the Art Society of New South Wales, by whom it is lent for exhibition.)

RAE, JOHN, M.A., Under-Secretary for Public Works, Sydney.—Water-colour drawings—

1. Panoramic view of the Town of Newcastle, N. S. W., taken from the high ground opposite the Wesleyan Chapel, and near the Military Barracks, in 1849.
2. Sketch showing the turning of the first turf of the first railway in Australia, taken from Pitt-street, Redfern, in 1850.
3. Panoramic view of the Town of Wollongong, taken from Russell's Hotel in 1851.
4. Panoramic sketch of the Valley of the Hume, or Upper Murray, from high ground behind the homestead of the station formerly belonging to Sir John Hay, President of the Legislative Council, showing the dividing line between the Colonies of New South Wales and Victoria, taken in 1857.
5. Panoramic view of the Harbour of Port Jackson, [illegible]en from the top of the old light-house in 1859.

WOOD, GRANVILLE A., 314, George-street, Sydney.—Water-colour painting on opal.

CLASS II.—SCULPTURES, &c.

SIMONETTI, ACHILLE, Colonial Architect's Department, Sydney.—Bust of Sir Patrick A. Jennings, K. C. M. G., M. P., President of the New South Wales Commission for the Calcutta Exhibition—with pedestal of Colonial bluestone—shown by permission of Sir Patrick Jennings.

Bust in terra cotta—Edward Combes, Esq., C.M.G., M.P., Officer of the Legion of Honour, and President of the Art Society of N. S. W.

Bassi relievi in terra cotta—(Baccanále).

CLASS IV.—ENGRAVINGS, LITHOGRAPHS, &c.

COLLINGRIDGE, ARTHUR, Ryde, Parramatta River, near Sydney.—Engravings on wood.

A creek 600 feet underground, at the Fish River caves, N. S. W. Engraved on wood by A. Collingridge.

Specimens of wood engravings executed by A. Collingridge, in Paris, and in Sydney, N. S. W.

First degree of merit medals at the Sydney International Exhibition for engravings, oil paintings, and drawings.

JIBBS, SHALLARD & Co., Pitt Street, Sydney.—Panoramic views, of Sydney and Port Jackson, showing proposed wharfage improvements.

CLASS V.—PHOTOGRAPHS.

BENNETT, W. F. (late T. H. BOYD), San Francisco Art Gallery, 252, George Street, Sydney.—Photographs.

BOAKE, B. C., Sydney Arcade, Sydney.—Photographs.

CANEY & Co., Mount Victoria, Blue Mountains.—Twenty-eight silver photos of interior of Fish River caves and Blue Mountain views.

CASPERS, RUDOLPH, Auburn-street, Goulburn.—Photographic views.

COLONIAL ARCHITECT (James Barnet), Hyde Park, Sydney.—Photographs of public buildings. Photo-lithographs of the Garden Palace and of the Macquarie Light-house, South Head.

COMMISSIONERS FOR NEW SOUTH WALES.—Panoramic view of Sydney, prepared for the Commission by Mr. C. Bayliss, of George Street, Sydney, and taken by the photographer from the cupola of the dome of the Garden Palace, prior to the opening of the Sydney International Exhibition of 1879.

Photographs of Public Works obtained for the Commission, at the instance of various branches of the Public Works Department.

GOVERNMENT PRINTER, BENT STREET, SYDNEY.—Photographs. Three large cards containing twenty-seven photographic views in Botanic Gardens, Sydney (Charles Moore, F.L.S., F.Z.S., Director).

HERFORT, GUSTAVUS, COOMA STREET, YASS.—Photographic views.

HOLTERMANN, B.O., M.P., ST. LEONARDS, SYDNEY.—Photographs. Photographic panoramic views of the city of Sydney and Port Jackson Harbour.

MINISTER FOR PUBLIC WORKS, SYDNEY.—Photographs.

PAINE, J., 96, Elizabeth Street, Waterloo, near Sydney.—Photographs of Sydney and Mountain Scenery.

RAE, JOHN, M.A., Under-Secretary for Public Works, Sydney.—Water colour drawing, showing present appearance of site of commencement of first New South Wales Railway, and photographs in Newcastle and Wollongong, showing present appearance of sites represented in Mr. Rae's drawing.

RUSFELDT & Co., E., Royal Arcade, George Street, Sydney.—Photographs.

TREBECK, P. N., Hunter Street, Sydney.—Photograph of the new Wool Stores built for the firm of P. N. Trebeck and Son, Bridge Street, Sydney.

TURNER AND HENDERSON, 16 and 18, Hunter Street, Sydney.—Album of landscape photographs.

TUTTLE AND Co., Corner George and Market Streets, Sydney.—Photographs.

WOOD, GRANVILLE A., 314, George Street, Sydney.—Photographic views and photographs.

CLASS VI.—WORKS OF ARTS NOT SPECIFIED.

DEPUTY MASTER OF THE ROYAL MINT (Robert A. Hunt), Sydney.—Coins, medals, &c, struck at the Sydney Mint.

DREWE, AMELIA, 1, Oak Terrace, Glebe, Sydney.—Musical compositions, by a lady, native of Sydney—"Kaikoura Waltzes," and "City of Grafton Schottische."

TURNER AND HENDERSON, 16 and 18, Hunter Street, Sydney.—Christmas cards, Australian flowers, &c.

SECTION B.—EDUCATION AND APPLICATION OF LIBERAL ARTS.

CLASS VII.—EDUCATIONAL APPLIANCES, MODELS OF SCHOOLS, SCHOOL FURNITURE, AND BOOKS.

COMMISSIONER FOR RAILWAYS FOR NEW SOUTH WALES, Sydney.—Annual Railway Reports, 1877 to 1881. 1 vol.

LIVERSIDGE, A., F.R.S., Professor of Chemistry and Mineralogy in the University of Sidney.—

1. Tables for Qualitative Chemical Analysis, arranged for the use of students, by A. Liversidge, F.R.S. (2 copies.)
2. The Minerals of New South Wales, by the same. (2 copies.)
3. Report upon certain museums for technology, science, and art; also upon scientific, professional, and technical instruction, and systems of Evening Classes in Great Britain and on the Continent of Europe, by the same.
4. Two models to show the arrangement of the crystallographic axes, by the same.

The one model shows how the domes are produced by an extension of the horizontal axes to infinity; and the other serves to show the relationship of the axes in the tetragonal, oblique and doubly oblique systems; the edges of the crystals are represented by elastic cords, so as to allow of the extension of one or of all the axes.

MINISTER FOR MINES, Sydney.

Annual Reports from 1875 to 1881, inclusive.

Mines and Mineral Statistics for 1875.

Mineral Products of New South Wales, by Harrie Wood, Under-Secretary for Mines.

Notes on the Geology of New South Wales, by C. S. Wilkinson, F.G.S., F.L.S., Geological Surveyor in charge.

Description of the Minerals of New South Wales, by Archibald Liversidge, F.R.S., F.C.S., F.G.S., &c., Professor of Mineralogy in the University of Sydney.

Catalogue of Works, Papers, Reports, and Maps on the Geology, Palæontology, Mineralogy, &c., &c., of the Australian Continent and Tasmania, by Robert Etheridge, junr., of the British Museum, and Robert Logan Jack, F.R.G.S., F.G.S, Government Geologist for Northern Queensland.

MINISTER FOR PUBLIC INSTRUCTION, Sydney.—Plans of public schools.

CLASS VIII.—MAPS, CHARTS, AND GEOGRAPHICAL APPARATUS.

ADAMS, P. F., Surveyor-General, New South Wales.—24 Maps—specimens of lithography, engraving, &c.

MACKENZIE, JOHN, F.G.S., Government Examiner of Coal-fields, Newcastle.—

Plan and ten vertical sections of the New South Wales upper coal measures, by John Mackenzie, F.G.S., Government Examiner of Coal-fields.

Two diagrams showing the thickness, character, and portion mined out of coal seams in the upper coal measures, northern district; two of the middle coal measures, northern district; one of the upper coal measures, western district; and one of the upper coal measures, southern district; with plan to accompany them; by John Mackenzie, F.G.S., Government Examiner of Coal-fields.

MINISTER FOR MINES, SYDNEY—
Map shewing mineral areas of New South Wales.
Ditto principal agricultural areas of New South Wales.
Geological sketch map of New South Wales, compiled from the maps of the late Rev. W. B. Clarke, M.A., F.R.S., by C. S. Wilkinson, L.S., F.G.S., Government Geological Surveyor in charge.
Geological map of the districts of Bowenfells, Wallerawang, and Rydal, by C. S Wilkinson.
Geographical sketch map of Oberon district, by C. S. Wilkinson.
Geological map of Young, by Messrs. C. S. Wilkinson and Lamont Young.
Geological map of Hill End and Tambaroora, by E. F. Pittman.

POST-MASTER-GENERAL, Sydney.—Map showing the Post and Telegraph offices of the Colony of New South Wales.

CLASS XI.—STATIONERY, &c.

TURNER AND HENDERSON, 16 and 18, Hunter Street, Sydney.—Heraldic and ornamental and business embossing.

CLASS XII.—PRINTING AND BOOKBINDING.

BATSON AND ATWATER, 8, Bond Street, Sydney.—Specimens of letter press printing.

GOVERNMENT PRINTER, Bent Street, Sydney.—Specimens of letter press printing.

GREVILLE, EDWARD, 273, George Street, Sydney.—N. S. W. Edition of the Official Directory and Almanac of Australia, published in Sydney.

CLASS XIV.—MUSICAL INSTRUMENTS.

ESDAILE AND CO., 277, Clarence Street, Sydney.—Esdaile pianofortes.

SECTION C.—HEALTH.

CLASS XVII.—APPLIANCES CONNECTED WITH SANITATION AND HYGIENE.

LAVERS, J. V., 117, Redfern Street, Sydney.—
Disinfecting fluid.
Chlorozone for disinfecting and deodorising.

CLASS XVIII.—DRUGS AND MEDICINES.

HOGBEN, E., Buckingham Street, Redfern, Sydney.—Balsam of aniseed for coughs.

HOGG AND CO., S. P., 12, Wynyard Lane, Sydney.—Fruit salt.

LAVERS, J. V., 117, Redfern Street, Redfern, Sydney.—
Cholera mixture.
Cream of Tartar fruit salt.

SECTION D.—FURNITURE AND OTHER OBJECTS FOR THE USE OR DECORATION OF DWELLING-HOUSES AND OTHER BUILDINGS.

CLASS XXIII.—FURNITURE AND UPHOLSTERY.

HODGSON, H. W., City Window Blind Factory, Elizabeth Street, Sydney.
1 Polished Queensland pine blind.
1 Enamelled green do. do.
1 French gray and stone color patent self-acting venetian blind (painted by machinery) fitted with silk tapes which can be made to suit any design, or color of tints in furniture.

HOLLOWAY, WILLIAM ERNEST, King Street, Newtown.—Specimen of sign-writing and gilding on glass.

CLASS XXIV.—GLASSWARE OF ALL KINDS.

AUSTRALIAN GLASS WORKS CO. (C. Bishop, Manager), Botany, near Sydney.—Aerated water bottles, &c.

BARRETT & CO., Bukingham Street, Redfern, Sydney.—Patent stopper bottles.

CLASS XXV.—STONE UTENSILS, POTTERY, PORCELAIN, &C.

CANNON, MANES, Leichhardt Street, Waverley, Sydney.—Double jar for safe carriage of perishable articles, such as butter, made according to exhibitor's specification.

COCHRANE, GEORGE, Moubray Park, St. Leonards, Sydney.—
Fireclay.
Earthenware clay.
Terra-cotta clay.

CLASS XXVI.—METALWARE, HARDWARE, AND CUTLERY.

HARDIE, GEORGE, 131, Pitt Street, Sydney.—Bell weighing 4 cwt., manufactured from Cobar copper; copper castings from Cobar copper.

CLASS XXX.—APPARATUS AND PROCESSES FOR COOKING, HEATING, AND LIGHTING.

BAILEY AND KERR, 111, King Street, Sydney.—Improved safety lamp.

COOK, W. & H., 225, Elizabeth Street, Sydney.—Samples of patent "Paragon" fire-kindlers.

CLASS XXXI.—DECORATIVE WORK, INCLUDING CARVING AND HARDWARE.

RUSSELL, J. E. M., 111, Stanley Street, Wooloomooloo, Sydney.—Lettered plaqard in colors to go over maps from Surveyor General's Department.

WILLIAMS, CHARLES, 264, Crown Street, Sydney.—Marbling, graining, &c.

CLASS XXXIV.—BRONZES: ORNAMENTAL WORK IN GOLD, SILVER, AND OTHER METALS.

HELLYER, R., 97, Bathurst Street, Sydney.—Colonial manufactured plated ware.

JONES, EVAN, Hunter-street and Royal Arcade, Sydney.—Electroplated ware, including emu eggs mounted in electro-plate.

CLASS XXXV.—TOYS.

RUSSELL, J. E. M., 111, Stanley Street, Woolloomooloo, Sydney.—Bullion Bank.

CLASS XXXVI.—HOUSEHOLD UTENSILS AND APPLIANCES NOT SPECIFIED IN CLASSIFICATION.

ZÖLLNER, S., 60, York Street, Sydney.—

Galvanized ironware.—Tubs and buckets.
Japanned and painted ware.
Household bellows, various.
Blacksmith's do. do.

SECTION E.—FABRICS, INCLUDING APPAREL, TOILET REQUISITES, AND OTHER OBJECTS OF PERSONAL WEAR OR USE.

CLASS XXXIX.—WOOL FABRICS.

COMMISSIONERS FOR NEW SOUTH WALES.—New South Wales merino wool, shewn in the various stages of manufacture. Prepared especially for the Commissioners by J. Vicars & Co., Woollen Manufacturers, Sussex-street, Sydney, viz.:—

Greasy wool (as received from the squatter).
Scoured wool.
Native brown (from black merino sheep).
Dyed wools, in various colours.
Carded do. do.
Spun yarns do.
Twisted do. do.
Tweeds, various fancy patterns, including buckskins, checks, twills, hair-cords, indigoes, cricketing and native brown tweeds (without dye), and scarlet cloth.
Plaids and shawls.

CLASS L.—JEWELRY AND PRECIOUS STONES.

JONES, EVAN, Royal Arcade and Hunter Street, Sydney.—Ornaments made of emu eggs, Figian and Trigonia shells, green stone, malachite, &c., gold, opal, and pearl jewelry, electro-plated ware.

CLASS LII.—FABRICS UNDER SECTION E NOT SPECIFIED.

COOK, W. & H., 225, Elizabeth Street, Sydney.—Machinery bands, window cords, clock cords, and fiddle strings made from catgut.

SECTION F.—RAW PRODUCTS AND MANUFACTURES FROM PRODUCTS NOT INCLUDED IN OTHER SECTIONS.

CLASS LIII.—MINERALS AND METALLURGIC PRODUCTS.

ATKINSON, J. J. O., Oldbury, Mossvale.—Iron ore, from Oldbury estate, near Berrima.

AUSTRALIAN AGRICULTURAL COMPANY, Newcastle.—Bituminous coal from their colliery near Newcastle.

The coal seam is from 13 feet 7 inches to 7 feet 10 inches in thickness, is free from faults, lies very regular, and has an average dip of 1 in 20 to 1 in 30 to the south-east.

AUSTRALIAN KEROSINE OIL AND MINERAL COMPANY (Limited), Joadja Creek, near Berrima. Office 3, Gresham Street, Sydney.—Boghead mineral, in blocks.

The extent of the mine worked by the company is 2,000 acres; output last year, 30,000 tons; number of hands employed in the mine and at the works, making kerosine, paraffin, wax, gasoline, &c., 200; seam, about 1 ft. 6 in. thick; yield, about 18,000 cubic feet of gas or 160 gallons crude oil per ton.

BENSUSAN, S. L., O'Connell Street, Sydney.—Australian mineral specimens, collected and arranged numerically by exhibitor.

BULLI COAL COMPANY, Bulli, near Wollongong.—Semi-bituminous coal from their colliery at Bulli. The coal seam is about 8 feet in thickness, of clean coal, without any bands; has an excellent rock roof and floor, and dips about 1 in 30 to the north-west.

CARANGULA ANTIMONY COMPANY, Carangula, Macleay River.—Exhibited by Mr. E. H. Becke, Manager.—Antimony ore.

CHALLENGER GOLD-MINING COMPANY, Adelong.—Specimens of auriferous pyritous quartz.

These exhibits were obtained from the crown of the Company's old reef. No. 1 block is from the 200 feet level, No. 2 from the 400 feet level, and No. 3 in two pieces from the 600 feet level. The reef in all these levels averages 10 inches in thickness, and will yield in gold an average of 1oz. 10dwts. per ton; the gold is alloyed with about 8 oz. of native silver per 100 oz. of retorted gold; the stone yields about 2 per cent. of pyrites saved by a 24-feet diameter round concave buddle, provided with Monday's patent scrapers. The pyrites when treated yield about 3 oz. per ton.

COAL CLIFF COMPANY, Coalcliff.—Semi-bituminous coal from their colliery at Coalcliff, 34 miles south of Sydney. Seam, 5 feet 10 inches in thickness.

COMMISSIONERS FOR NEW SOUTH WALES, Sydney.—Refined tin, in ingots and bar.

Auriferous quartz—Great Victoria Mine, Adelong. Blocks marked A from the 970 feet level; blocks marked B from the 1,000 feet level. Average yield 2½ oz. of gold per ton.

FOUNTAIN, J., & ALLISON, W., Woodlands, Gosford.—

Iron ore.
Paint ochres.
Soil.
Fireclay.

The iron ore exhibited is found about 40 miles from Sydney by water, and 51 by rail, when the railway is completed. The soil is believed to be decomposed iron, as when roasted the magnet will lift 75 per cent. of it; this makes good paint.

GLEN SMELTING COMPANY, TENT HILL.—Lode, stream, and smelted tin.

GREAT COBAR COPPER-MINING COMPANY, Office, 131, Pitt Street, Sydney. Geo. Hardie, Manager.—About 5 tons copper ingots, forming trophy.

Assortment of copper ores.
Regulus.

Pimple metal.
Coarse and fine copper, illustrative of the several stages of smelting.

HERRENSCHMIDT, H., 2, Hereford Street, Glebe Point.—
Antimony ore.
Antimony regulus.
Crude antimony.
Antimony oxides.
Cobalt and manganese ores and other products.

HUME, A. H., Everton, Rye Park, near Yass.—Argentiferous and auriferous galena. Lode, 3 ft. wide; depth, 60 ft.

MELVILLE, JOHN S., Sydney.—Star antimony.

MINISTER FOR MINES, Sydney.—Collection of minerals from New South Wales, arranged under the direction of C. S. Wilkinson, L.S., F. G. S., Geological Surveyor in charge, by J. E. Carne, Curator of Mining and Geological Museum.

The following information is extracted from the Annual Report of the Department of Mines:—

GOLD.

The weight of gold obtained to the end of 1882 was 9,365,648·51 ounces, of the value of £34,870,378 4s. 2d. Except in some few localities quartz-veins have not been worked to a great depth. Alluvial lands have in some instances been worked to a depth of 200 feet, and there are the strongest indications of deep leads in various parts where no attempt has been made to work them. Gold-mining, as hitherto carried on, has been principally confined to the working of river-beds and shallow alluvial claims. Extensive areas of country are known to be auriferous, and it is believed that there will be ample scope for the remunerative employment of a lage population in both alluvial and quartz-mining. The poor success which has often attended the working of quartz-veins is largely attributable to ill-judged speculation, inexperience, and the absence of proper ore-separating and other mining appliances. The Government Geological Surveyors, in their reports to the Minister for Mines, indicate promising localities for the gold prospector in the Northern Western, and Southern Districts of the Colony. Specimens of auriferous quartz from various gold-fields are shown in the exhibition.

The approximate area included within the proclaimed gold-fields is 35,500 square miles; but from the geological formation of the country it is believedr that the area in which payable gold deposits will be found will be greate than that now stated. From some the reefs at Hill end crushings gave at the rate of from 30 to 2,100 ounces of gold per ton. It is known that much gold passes away in the tailings, and is lost in consequence of the imperfect appliances at present employed for the treatment of auriferous pyrites.

Description.	Locality.	Remarks.
Auriferous pyritous quartz.	Great Victoria Reef, Adelong.	900 feet deep. Reef abont 18 inches wide; yield, 2 oz. of gold per ton.
Auriferous lodestone with arsenical pyrite.	New Reform G.M. Company, Lucknow.	Depth, 420 feet. Taken from where a shoot traverses the dyke.
Auriferous arsenical pyrites, carrying carrying free gold.	,, ,,	Depth, 420 feet; portion of a "bonanza," the concentrated pyrites from which yielded over 4,400 oz. of gold and silver per ton.

Description.	Locality.	Remarks.
Auriferous dyke stone	New Reform G.M. Company, Lucknow.	
„ quartz ...	Cooma District.	
„ „ showing free gold.	From the Colony.	
Auriferous ferruginous vein showing free gold.	„ „	
Auriferous quartz with mispickel.	Mountain Maid Reef, Colongolook.	
„ „	„ „	
Auriferous breccia ...	Eleanora Gold and Antimony Mining Company, Hill Grove, near Amidale.	Depth, 15 feet; lode, 6 feet wide. Yield up to 5½ oz. per ton of gold.
„ „	„ „	
„ granite ...	Timbarra	Yield, 1 oz. per ton. Depth, 35 feet.
„ quartz with blende, galena, and pyrites.	Braidwood.	
„ „	„ „	
Auriferous cement ...	Mount Ephraim, Hanging Rock.	
„ quartz (crystallized) showing free gold.	„ „	
Auriferous quartz ...	„ „	
„ „	Lady Matilda Reef, Nana Creek.	
„ „	Illabo Reef, Nana Creek.	
„ „	Advance Australia Reef, Nana Creek.	
Auriferous quartz ...	Nana Creek.	
„ „	Homeward Bound Reef, Nana Creek.	
„ „ (showing free gold).	From the Colony.	
Auriferous cement, showing free gold.	Lunatic, New England.	
Auriferous quartz, containing metallic arsenic and calcite.	Golden Crown Reef, Lunatic.	
Auriferous quartz, showing free gold.	Homeward Bound Reef, Little River, Braidwood.	Vein 1 foot 6 inches thick.
Auriferous pyritous quartz.	Catherine G. M. Co., Eaglehawk, Windeyer.	Vein from 12 to 18 inches thick.
Auriferous quartz ...	Mount M'Donald.	
„ silicious ferruginous deposit.	Brown's Creek mine near Blayney.	From a fissure, which is in places 150 feet wide, in diorite. Average yield about 3 dwts. per ton.
Auriferous copper ore	„ „	„ „ „

Description.	Locality.	Remarks.
Auriferous pyritous quartz.	New South Wales Band and Albion Mine, Big Hill, Mitchell's Creek.	Vein from 2 feet 9 inches to 5 feet 1 inch thick. Yield, 8 to 15 dwts. free gold per ton; concentrated pyrites 7 to 60 oz. gold, and 23 oz. silver per ton.
Auriferous quartz ...	No. 7 Lady Matilda Reef, Nana Creek.	
,, ,, showing free gold.	From the Colony.	
Auriferous pyrites, blend, and galena.	Braidwood.	
Concentrated pyrites	Spring Creek, Major's Creek.	
,, ,,	,, ,,	
,, calcined	,, ,,	
,, ,,	Old line of reef, Adelong.	
,, ,,	Victoria line of reef, Adelong.	
,, ,,	Old line of reef.	
,, ,,	New Reform Company, Lucknow.	Yield, 100 oz. gold per ton.
Auriferous pyritous quartz.	Challenger G.M. Co., Adelong.	Depth, 250 feet; reef 18 inches wide. Yield, 2 oz. of gold per ton.
,, ,,	Great Victoria Mine, Adelong.	600 feet level; reef about 18 inches wide. Yield, 2 oz. of gold per ton.
,, breccia, with stibnite.	Eleanora Gold and Antimony Mine, Hillgrove, near Armidale.	Yield up to 5¼ oz. gold per ton; lode, 6 feet wide. Depth, 10 feet.

SILVER AND LEAD ORES.

Valuable lodes have been found in various parts of the Colony, but none of them have been extensively worked, with the exception of those at Boorook, the discovery of which is of comparatively recent date. The neglect of these important deposits is mainly due to want of knowledge of the proper modes of treating the several descriptions of ores. The quantity of silver raised to the end of 1882—chiefly from the Boorook Mines—is 765,397 ounces, valued at £137,429.

The lodes of galena which have been opened have not as yet been worked with profit.

Description.	Locality.	Remarks.
Argentiferous pyrites	Golden Age, Boorook...	Yield, silver, 180·35; gold, 1·05 oz. per ton.
,, ,,	,, ,, ...	Yield, silver, 106·15; gold, 0·75 oz. per ton.
,, ,,	,, ,, ...	Yield, silver, 285·60; gold, 2·20 oz. per ton.

Description.	Locality.	Remarks.
Chloride and sulphide of silver.	Addison's Lode, Boorook	Yield, silver, 238·60; gold 2·00 oz. per ton.
Chloride of silver ...	Golden Age ,,	Yield, silver, 181·65; gold, 1·15 oz. per ton.
Chloride and sulphide of silver.	Addison's Lode ,,	Yield, silver, 214·25; gold, 2·50 oz. per ton.
,, ,,	,, ,,	Yield, silver, 212·15; gold, 5·00 oz. per ton.
Silver ore	Boorook.	
Chloride and sulphide of silver.	Silver King Mine, Boorook.	
,, ,,	,, ,,	
Chloride of silver ...	,, ,,	
Sulphide of silver ...	Addison's Lode, Boorook	Silver, 164·20; gold, 1·50 oz. per ton.
Chloride of silver ...	Golden Age ,,	Silver, 288·10; gold, 2·50 oz. per ton.
,, ,, ...	Narangarie Silver Mines, near Denison Town.	Two assays gave 98 and 143 oz. of silver per ton.
,, ,, ...	Boorook.	
Argentiferous and auriferous mispickel.	Moruya Silver Mine...	Average width of lode, 19 inches from surface to 198 feet (greatest depth obtained). Yield up to 60 oz. of silver, and 11½ oz. of gold per ton.
Argentiferous with blende and galena.	,, ,,	
,, ,,	Warrell Creek, Nambucera river.	
Argentiferous galena	,, ,,	
Argentiferous and auriferous blende, galena, and pyrites.	Liddleton Silver Mines, near Hartley.	
Argentiferous and auriferous galena.	Umberumberka Silver Mines, Barrier Range.	Assays up to 2,000 oz. of silver per ton; lead, 68%.
Argentiferous galena	Mylora, near Yass ...	Yield, silver, 4 oz. 13 dwts. per ton; lead, 61 80%.
,, ,,	Quedong.	
Argentiferous galena, with blende and pyrites.	Warrell Creek.	
Silver ore (block) ...	Moruya Silver Mines...	See No. 57.
Argentiferous galena	Umberumberka, Barrier Range.	N. W. boundary of the Colony.
,, ,,	Thackeringa, Barrier Range.	
,, ,,	Sinclair Silver Mine, 9 miles from Umberumberka.	

COPPER.

Several lodes of copper are being worked in the Colony, but some of the richest are at present beyond the reach of railway communication. Those which have been hitherto worked vary in thickness from 1 to 100 feet, and consist of ores which contain as high as 70 per cent. of metal. The copper is not unfre-

quently associated with gold, silver, and lead. The production of copper has increased in value from £1,400 in 1858 to £324,727 in 1882. The value of the total production of copper to the end of 1882 was £3,538,285. Numerous characteristic specimens and some large blocks of copper ore, also about 5 tons of metallic copper in ingots, are exhibited. The approximate area of cupriferous country in New South Wales is 6,713 square miles.

Description.	Locality.
Cuprite and carbonates (block) ...	New Mount Hope copper mine.
Cuprite (block)	Great Cobar ,,
Redruthite (block)	,, ,,
Cuprite	Girilambone ,,
,, ...	Great Cobar ,,
,, ...	New Mount Hope ,,
,, with chalcopyrites and malachite.	,, ,,
Cuprite with malachite	Great Blayney ,,
Redruthite	Great Cobar ,,
,, ...	Nymagee ,,
Chalcopyrites	Great Cobar ,,
,, ...	,, ,,
,, with melaconite ...	Great Blayney ,,
,, ,, ...	,, ,,
,, ...	Cheshire copper mine, near Cudgegong.
,, ...	,, ,,
,, ...	Gordon Brook, Clarence River. ,,
,, ...	Nymagee copper mine.
,, ...	New Mount Hope copper mine.
Melaconite and chalcopyrites	Great Blayney ,,
,, ,, ...	,, ,,
Earthy carbonate and cuprite	New Mount Hope ,,
,, ,, ,, ...	,, ,,
Malachite	Great Cobar ,,
,, ...	,, ,,
,, ...	,, ,,
,, with chessylite	New Mount Hope ,,
Earthy malachite ,, ...	Nymagee ,,
Malachite and ,, ...	Girilambone ,,
,, ,, (concretionary).	,, ,,
Chessylite	,, ,,
,, ...	,, ,,
,, ...	Great Cobar ,,
Copper ore (auriferous)	Brown's Ck., Blayney ,,
Native copper	Great Blayney ,,
,, ,, ...	New South Wales ,,

ANTIMONY.

Antimony ores have been found in numerous parts of the colony. The principal lodes occur in the Macleay, Armidale, Clarence, and Cudgegong districts. Those on the Munga Creek, near the Macleay River, traverse sedimentary rocks of Devonian age. The ores consist of oxide and sulphide, and occur in irregular bunches, occasionally of a considerable size, associated with quartz matrix, which forms the chief constituent of the lodes.

One of the lodes near Armidale contains free gold, plainly visible to the naked eye.

Until quite recently but little attention has been devoted to the development of the antimony lodes, but lately some of the lodes have been worked, especially in the Macleay and Armidale districts; and there is reason to believe that the output of this mineral will largely increase.

The quantity and value of antimony exported to the end of 1881 is 2,171 tons 18 cwt., value £74,519.

Description.	Locality.	Remarks.
Stibnite (block) ...	Gara, near Armidale.	
,, and cervantile (block).	Bolt's Mine, Carangula, Macleay River.	Depth, 40 feet; lode, 3 feet 6 inches.
,, ...	John Thomas' Mineral Lease, Carangula, Macleay River.	Depth, 15 feet; lode, 3 feet wide.
,, ...	Carangula Antimony Company.	Depth, 35 feet; lode, 15 to 30 inches wide.
,, (auriferous) ...	Eleanora Gold and Antimony Company, Hillgrove, near Armidale.	Assay: Metallic antimony, 57 % gold, 2 ozs. 12 dwts.; and silver; 19½ dwts. per ton.
,, ,, ...	,, ,,	
,, ...	Caledonian Reef, Lunatic.	
,, ...	Carangula Antimony Company.	No. 3, east lode, depth, 45 feet.
,, ...	Perseverance Reef, Lunatic.	
,, (acicular crystals).	Carangula Antimony Company.	No. 1 shaft, depth, 40 feet.
,, ...	,, ,, ...	,, ,,
,, ...	Thomas' Mine, Carangula.	Depth, 15 feet; lode, 3 feet.
,, ...	,, ,,	
,, ...	Gara, near Armidale.	
Cervantite and stibnite.	Caledonian Reef, Lunatic.	
,, ,, }	Thomas' Mine, Carangula.	Depth, 8 feet.
,, ,, }		

BISMUTH.

Bismuth ores have been found in the tin-bearing drifts, and also in lodes at Silent Grove, The Gulf (in the Vegetable Creek district), Glen Innes, Elsmore, Tenterfield, and Adelong. At Kingsgate, near Glen Innes, a lode is reported to be 6 to 8 feet wide, from which samples of metallic bismuth have been taken, weighing from 1 to 5 pounds. Samples of the ores from this locality are shown in the collection.

Description.	Locality.	Remarks.
Native bismuth in lode stuff.	Kingsgate Bismuth Co., near Glen Innes.	Depth, 30 feet.
Native bismuth with carbonate.	,, ,, ...	,, ,,
Native bismuth and sulphide and carbonate.	Glen Innes Bismuth Co., Kingsgate.	

Description.	Locality.	Remarks.
Native bismuth in quartz	Kingsgate.	
Native bismuth ...	,, ...	Dept, 20 feet.
Sulphide of bismuth ...	Glen Innes Bismuth Co., Kingsgate.	
Lode stuff containing carbonate of bismuth.	,, ,, ...	Surface.
Carbonate of bismuth.	,, ,, ...	Depth, 8 feet.
,, ,, ...	,, ,, ...	,, ,,
Bismuth ore (washed) ...	,, ,,	
,, ,, ...	,, ,,	

TIN.

The approximate area of the tin-fields in New South Wales is 5,440,000 acres. According to the official report of Harrie Wood, Esq., Under-Secretary for Mines, the value of the total production of the tin to the end of 1882 amounts to £5,173,038. The tin ore, therefore, ranks next in importance to gold and coal as a source of wealth to the colony. The existence of tin in New South Wales was known for many years, but it was not till 1871 that any attempt was made to turn this mineral to account as a marketable commodity. The most extensive deposits of ore have been found in the northern portion of the colony, but tin has also been discovered in other districts. The value of the tin obtained in 1872 was £47,703, in 1873 the value amounted to £334,436, and in 1882 to £833,461; the total value of the production to that date being £5,173,038. The ore has hitherto been obtained in the beds of watercourses, and it is separated from the soil by sluicing. In some localities extremely rich deposits of drift tin have been found in the beds of ancient streams, at a depth from 60 to 80 feet below the surface; but it more frequently happens that the overlying soil is only a few feet in thickness. Valuable lodes or reefs have also been discovered, and in some places crushing machinery has been erected to extract the ore. The tin-bearing granites of New South Wales belong to the same geological era as those of Cornwall. Many years will elapse before the ground now being worked will be exhausted, so that the tin-fields open a wide scope for the employment of the labouring classes. Recent discoveries of comparatively deep deposits of stream tin prove how little our tin-bearing lands have been explored, and how richly they compensate the explorers. The tin ores exhibited in the New South Wales Court are numerous, and show the different forms in which this mineral has been found in the colony.

Description.	Locality.
Lode tin (block) ...	Torrington tin lode, Mole Table-land. Depth, 50 feet; lode, 2 feet thick.
,, ...	Ottery Lode, Tent Hill,
Lode tin in griesen ...	Newstead, New England.
,, ...	King Tin-mining Co., Pheasant Creek, New England.
,, ...	Gulf Stream Mine, the Gulf, New England.
,, ...	Butler's Lode, Mole Table-land, New England. Depth, 25 feet; lode, 4 feet thick.
,, ...	Elliott & Co 's Lode, Vegetable Creek, New England.
,, ...	Butler's Lode, Gulf Creek, New England.

Decription.	Locality.
Lode tin	New England.
,, in greisen ...	,,
,, ...	Torrington Tin Lode, Mole Table-land, New England. Depth, 50 feet; lode, 2 feet thick.
,, ...	Ford & Co.'s Lode, Black Swamp, New England.
,, ...	Bark Hut Lode, Mole Table-land, New England. Depth 35 feet; lode, 3 feet thick.
,, ...	No. 3 Ottery's Lode, Tent Hill, New England. Lode from 2 to 4 feet 6 inches thick.
,, ...	New England.
,, ...	,,
,, ...	Dutchman's Lode, Mole Table-land, New England.
,, ...	Dividing Range between Graveyard and Vegetable Creeks, New England.
,, ...	Strathbogie, near Vegetable Creek, New England.
,, ...	Hall's Lode, the Grampians, New England.
,, with beryl ...	Old Gulf Lode, the Gulf, New England.
,, ...	Gaden's Shaft, the Gulf, New England.
,, ...	Brown's Gully, the Gulf, New England.
,, ...	Bates' Lode, Mole Table-land, New England.
,, ...	Blair's Lode, the Gulf, New England.
,, ...	Dan O'Connell Lode, Parish Highland Home, New England.
,, crystals ...	Hall's Claim, the Grampians, New England.
,, ...	,,
,, ...	Gordon's Selection, Strathbogie, New England.
,, ...	New England.
,, ...	Glen Creek, New England.
,, ...	,,
,, ...	Tingha, New England.
Stanniferous cement ...	Mole Table-land, New England.
,, ,, ...	New England.
,, ,, ...	,,
,, ,, ...	Bailey's Shaft, Strathbogie, New England.
Tertiary silicious grit, containing stream tin and fossil wood.	Vegetable Creek, New England.
Stanniferous wash cement	Vegetable Creek, New England.
,, ,, ...	,, ,,
,, ,, ...	Lady Mary Mine, Stannifer, New England.
,, ,, ...	New England.
,, ,, ...	Rose Valley, Vegetable Creek, New England.
,, ,, ...	Vegetable Creek, New England.
,, ,, ...	The Grampians, New England.
,, ,, ...	Vegetable Creek, New England.
,, ,, ...	Jealousy Mine, New England.
,, ,, ...	O'Donnell's Mine, Rose Valley, New England.
,, ,, ...	Elsmore, New England.
,, ,, ...	Flannery's Wesley Mine, Vegetable Creek, New England. Depth. 165 feet.
,, ,, ...	Gulf Stream Mine, New England.
,, ,, ...	O'Donnell's Mine, Rose Valley, New England.
,, ,, ...	Deep Lead, Fox's Claim, Vegetable Creek, New England. Depth, 165 feet.
,, ,, ...	Vegetable Creek, New England.
,, ,, ...	,, ,,

Description.	Locality.
Stream tin	Moore & Co.'s Vegetable Creek Tin Mine, New England. Surface depth, 1 to 2 feet.
„	Flannery's Mine, Vegetable Creek, New England.
„ (coarse) ...	Moore & Co.'s Rothschild Mine, New England, Depth 1 to 15 feet.
„ (finer) ...	Moore & Co.'s Rothschild Mine, Vegetable Creek, New England. Depth, 1 to 15 feet.
„ (finest) ...	Moore & Co.'s Rothschild Mine, Vegetable Creek, New England. Depth, 1 to 15 feet.
„	Vegetable Creek Tin-mining Company, Vegetable Creek, New England. Depth, 42 feet.
„	Vegetable Creek Tin-mining Company, Vegetable Creek, New England. Depth, 42 feet.
„	Deep Lead, Graveyard Creek, Vegetable Creek, New England. Depth, 70 feet.
„	Deep Lead, Graveyard Creek, Vegetable Creek, New England. Depth, 50 feet.
„ (surface) ...	Sheep-station Gully, Strathbogie North, New England.
„	Vegetable Creek, New England.
„	„ „
„	Original Deep Lead, Vegetable Creek, New England.
„	Y. Water-holes, Vegetable Creek, New England. Depth, 40 feet; thickness of wash, 4 feet.
„	Glen Creek, New England.
„ (surface) ...	From a gutter on ridge falling into Graveyard Creek, New England.
„	Vegetable Creek Tin-mining Company, Graveyard Creek, New England. Depth, 60 feet.
„ (surfacing) ...	Portion 729, between Graveyard and Vegetable Creeks, New England.
Toad's-eye tin (wood tin)	Grenfell.
Tin nugget	Hall's Claim, the Grampains, New England.
„ (stream tin) ...	Cadell and Hall's Claim, Nugget Ground, the Gulf, New England.
„ „ ...	Deepsinkers' Mine, Cope's Creek, New England.
Stream tin	Deep Lead, Rose Valley, Vegetable Creek, New England.
„	Pemberty's Claim, Elsmore, New England.

IRON AND MANGANESE.

Important deposits of iron ore are found in close proximity to coal and limestone in several parts of the Colony. Furnaces, rolling-mills, &c., have recently been erected at Eskbank, Lithgow Valley, for the conversion of pig iron into malleable iron; and it is expected that the demand for iron in the Colony will be supplied by metal locally produced. Hæmatite, magnetic chrome, and other iron ores are shown in the mineral collection. The ore found at Mittagong, in the Southern District, contains about 66 per cent. of iron. Speaking of the deposits of iron ore at Wallerawang, Professor Liversidge says—"They contain two varieties of iron—magnetite, or the magnetite oxide of iron, and the brown hæmatite or gyathite—the hydrated oxide; then in addition to these there are the deposits of the so-called clay bands which are interstratified with the coal measures. These clay bands are not what are usually known as clay iron ores in England. They are brown hæmatites, var. limonite, while the English clay iron ores are impure carbonates of iron, which seldom contain much more than 30 per cent. of metallic iron, against some 50 per cent. contained by the hæmatites.

A highly ferruginous garnet rock accompanies the veins of magnetite; this garnet rock is very rich in iron, and it will probably be found advantageous to smelt it with the other ores, not only on account of the large percentage of metal which it contains, but also on account of the increased fluidity it would impart to the slag." The approximate area of iron ore deposits is 1,400 square miles. The value of the iron raised to end of December 1882 amounts to £154,581 0s. 4d.

Manganese ores have been found in considerable quantities, but owing to cost of carriage to seaboard cannot at present be profitably worked.

Description.	Locality.
Block of iron ore	Fitzroy Iron Mines, near Mittagong.
Garnet iron ore	Wallerawang.
,, ...	,,
Brown hematite	,,
,, ...	Mittagong.
,, ...	,,
,, ...	Borro, Long Swamp, between Goulburn and Bungendore.
Chrome iron	Tamworth Chrome Iron Company's Mine.
,, ...	Ironbarks, near Barraba.
Oxide of Manganese ...	Mihi Creek, 16 miles from Armidale. Assay: manganese, 75·86 per cent.; cobalt, a trace.
,, ...	Bendemeer.
Magnetic iron, with sulphide of copper.	Near Binalon.
Brown iron ore	Mittagong.

VARIOUS SPECIMENS INCLUDING ZINC ASBESTOS, GEMSTONES, &c.

Zinc-blende is of frequent occurrence in the auriferous and other veins, but has hitherto not been sound in sufficient quantity to pay.

Asbestos of good quality in veins in serpentine is found in the Gundagai and Bathurst districts, but the veins have not been much explored

The gem-stones found in the Colony include the diamond, sapphire, oriental emerald, emerald, ruby, opal, amethyst, garnet, chrysolite, topaz, cairngorm, onyx, &c., which have been found in the gold and tin-bearing drifts and river gravels in numerous localities.

Description.	Locality.
Pyrrhotine	Golden Crown Reef, Lunatic.
,, ...	Vegetable Creek.
,, and blende ...	Ottery's Lode, Vegetable Creek
,, ,, ...	,, ,,
Mispickel and blende in fluor-spar.	Hall's Claim, the Grampians.
Mispickel	Folkstone Lode, Mole Table-land.
Blende and pyrites ...	Major's Creek, Braidwood.
Mispickel	Muruya.
,, ...	Mann River.
Native arsenic	Golden Crown Reef, Lunatic.
,, ...	,, ,,

Description.	Locality.
Wolfram	Hogue's Creek, Parish Boyd, County Gough.
"	" "
Molybdenite	Kingsgate, near Glen Innes.
Scheelite with stibnite ...	Eleanora Gold and Antimony Mine, Hillgrove, near Arminale.
Gypsum	Mount Brown, Albert District.
Magnesite	Kempsey, Macleay River.
Quartz crystals	Dutchman Tin-mine, Mole Table-land.
"	" "
Asbestos	Jones Creek, Gundagai.
"	"
"	"
Gem sand	Bingera.
Topaz	Vegetable Creek.
Beryl in lode stuff	Gulf Stream Tin-mine, New England.
Beryl	Vegetable Creek, New England.
Gem stones	New South Wales.

VARIOUS ROCK SPECIMENS.

Description.	Locality.
Tertiary basalt, overlying tin drift.	Wesley's Mine, New England.
Tertiary vesicluar basalt ...	Portion No. 236, Parish of Anderson, County Gough.
Fine-grained granite ...	Torrington Tin-mine, Mole Table-land.
Hornblende " ...	Glen Innes.
Granite " ...	Trial Bay.
Altered Devonian rock ...	Rose Valley Tin-mine, Vegetable Creek.
" conglomerate	Vegetable Creek.
" slate ..	"
Griesen containing tin crystals...	Ding Dong, County Gough.
Silicious stanniferous cement ...	Campbell's Ground, Vegetable Creek.
Shale	Blackheath.
Sandstone (Hawkesbury) ...	Sydney.
Schist	Oberon.
Marble limestone	Kempsey, Macleay River.
"	" "
"	Wallerawang.
"	"
"	Tamworth.

COAL.

The approximate area of the carboniferous strata is estimated at 23,950 square miles. The principal coal-beds exist along the coast to the north and south of Sydney. The mines first opened are situated in the immediate vicinity of Newcastle, and it is from there that the Colony obtains its largest supply. In many districts the coal crops out on the face of the hills, and can be cheaply got by driving tunnels. The coal-shipping facilities at Newcastle are by staiths and steam and hydraulic cranes. Full descriptions of the various coal-seams worked in New South Wales have been given by Mr. John Mackenzie, F.G.S., Government Examiner of Coal-fields, in the Annual Reports of the Department of Mines.

Writing of the upper coal measures in the Western District, the Government Geologist (Mr. C. S. Wilkinson, L.S., F.G.S.) says: "They are 480 feet thick resting conformably on the marine beds of the lower coal measures, and overlaid by more than 500 feet of Hawkesbury sandstone. Eleven seams of coal have been counted in them; the lowest, which is 10 feet thick, lies about 25 feet above the marine beds, and is the same seam worked by the Bowenfels, Eskbank, Lithgow Valley, and Vale of Clwydd Collieries. This seam of coal crops out on the surface on the railway line near Bowenfels. It dips at a low angle of 3 to 5 degrees to the north-east, and is therefore easily worked; and as it passes under the vast extent of mountain ranges to the north and east, it will be inexhaustible for generations to come." The production of coal has increased very rapidly of late years. In 1833, 328 tons were raised, and in 1882, 2,109,282 tons. Several seams of petroleum coal have been found, and the coal from two of them is retorted for the manufacture of "kerosine-oil." Their thickness varies from 2 to 5 feet. The Hartley shale yields 160 gallons of crude oil, or 18,000 cubic feet of gas per ton, with an illuminating power equal to forty candles. The total production of coal to December 31st, 1882, was 25,990,761 tons, of the value of £13,204,272 13s. 8d., and of petroleum coal 239,349 tons, of the value of £665,160 15s. 8d. Sections and samples of the coal seams worked in the Northern, Western, and Southern Coal-fields are exhibited.

Description.	Locality.
Bituminous coal	Northern Coal-field.
Semi-bituminous coal ...	Southern Coal-field.
Do. ...	Western Coal-field.
Boghead mineral or kerosine shale.	New South Wales Shale and Oil Company's Mine, Hartley. Seam, 3 feet 2 inches thick. Yield 150 gallons of crude oil, or 18,000 cubic feet of gas per ton.
Do. ...	Australian Kerosine Oil and Mineral Company, Joadja Creek, near Berrima. Seam, 1 foot 6 inches. Yield, about 150 gallons of crude oil, or 18,000 cubic feet of gas per ton.

MINISTER FOR MINES, Sydney.—Collection of characteristic fossils from the principal sedimentary formations of New South Wales; arranged under the direction of C. S. Wilkinson, L.S., F.G.S., Geological Surveyor in charge, by J. E. Carne, Curator of Mining and Geological Museum.

NEW SOUTH WALES SHALE AND OIL CO., 3, Hunter Street, Sydney.—Boghead mineral (or kerosene) shale, from their mine at Mount York, Hartley. Seam, 3 feet 2 inches thick, yield 18,000 cubic feet of gas, or 160 gallons of crude oil per ton.

NORTH, J. B., 105, Pitt Street, Sydney.—Coal from Katoomba Colliery. Seam 4 feet 3 inches in thickness.—Also kerosene shale from Katoomba.

RAILWAY DEPARTMENT OF NEW SOUTH WALES, Locomotive Branch, Government Railway Works, Sydney (extracted from minerals by Mr. Conrad Icke, late of Newcastle, N.S.W.)—

Chrome iron-stone.
Chrome yellow.
Chromate from New South Wales Antimony Ore (Kempsey district).
Ingot of star antimony.
Antimony ore from Armidale.
Ingot of star antimony.
Nickel ore from New Caledonia.
Piece of pure nickel, handle of German silver.

WALLERAWANG IRON CO. (Limited), Exhibited by Mr. J. B. North of 131, Pitt, Street, Sydney, a shareholder.—Iron ore, limestone.

CLASS LIV.—INDIGENOUS TIMBERS AND OTHER FOREST PRODUCTS.

BRAY, JAMES S., 84, Forbes Street, Woolloomooloo, Sydney.—Australian woods (in panels 12 inches long by 6 inches wide, one side polished).

Ironbark, black wattle or lignum vitæ, native cherry, myall, apple-tree, pine, mimosa, known also as wattle, red gum, stringy bark, kurrajong, white box, yellow box.

COMMISSIONERS FOR NEW SOUTH WALES.—Collection of timbers, procured for the Commission by the forest rangers under the Department of Mines of New South Wales, by the authority of the Minister, and prepared at the expense of the Commission to order by Messrs. John Taylor and Co. of Sussex Street, Sydney.

Red gum, *eucalyptus rostrata.* Ord. *Myrtaceæ*, timber highly valued for strength and durability, especially for piles and posts in damp ground; used also for ship-building, railway sleepers, bridges, wharves, and numerous other purposes. H. 60-80; D. 6-8. *Habitat*—River banks and flats subject to inundation; Murray River and other southern districts.

Red gum, *eucalyptus rostrata.* Ord. *Myrtaceæ*, same as preceding species.

Spotted gum, *eucalyptus maculata.* Ord. *Myrtaceæ*, timber used in ship-building, for bridges, girders, naves of wheels, cart and buggy shafts, cubes for street-paving, staves, shingles, and general building purposes requiring a strong, close-grained, and durable timber. H. 100-150; D. 3-4. *Habitat*—Northern and Southern coast districts.

Mahogany, *eucalyptus resinifera.* Ord. *Myrtaceæ*, timber strong and durable; used for ships' knees, shingles, posts, and general building purposes; not liable to shrink, and lasting underground. H. 80-120; D. 2-3. *Habitat*—Northern and Southern coast districts.

Red ironbark, *eucalyptus leucoxylon.* Ord. *Myrtaceæ*, timber tough, strong, hard, heavy, and durable; largely used for railway work, bridges, piles for wharves, girders, wheelwrights' work, rails, shingles, &c. H. 80-100; D. 3-4. *Habitat*—Interior and Southern districts.

Grey ironbark, *eucalyptus crebra.* Ord. *Myrtaceæ*, timber similar in quality and used for same purposes as red ironbark. H. 80-100; D. 2-3. *Habitat*—Northern and Southern districts.

Honeysuckle, *banksia integrifolia.* Ord. *Proteaceæ*, timber tough; used for knees of boats, bullock-yokes, &c. H. 30-40; D. 1-2. *Habitat*—Sandy beaches, Northern, Southern, and Western districts.

Redwood or peppermint, *eucalyptus piperita.* Ord. *Myrtaceæ*, timber durable, known to have kept sound in moist soil for 40 years; used for posts, shingles, house-building, &c. H. 80-100; D. 2-3. *Habitat*—Southern and western districts.

Mangrove, *avicennia officinalis.* Ord. *Verbenaceæ*, timber used for boat-building, bullock-yokes, mallets, &c., and burnt for its ash, which is used in soap-making; leaves eaten by cattle, and considered very nutritious. H. 12-20; D. 6-9 inches. *Habitat*—In salt water estuaries, extending along the Australian sea coast.

Mountain ash, *eucalyptus virgata.* Ord. *Myrtaceæ*, timber splits freely, and is used for shingles, palings, rails, and house-building. H. 90-100; D. 2-3. *Habitat*—On high mountains and on the sea-coast, Southern and Western districts.

Sassafras, *doryphora sassafras.* Ord. *Monimiaceæ*, timber fragrant, and disagreeable to all kinds of vermin, soft and weak; used for lining inside of houses, furniture, &c.; bark contains a medicinal property, which is valued as a tonic. H. 60-80; D. 1½-2. *Habitat*—Brush forests, Northern, Southern and Western districts.

Blackwood or black sally, *acacia melanoxylon.* Ord. *Leguminosæ*, timber dark-coloured, hard and close-grained; much valued for furniture, picture-frames, cabinet-work, fencing, bridges, &c. H. 40-60. D. 1½-2. *Habitat*—Southern and Western districts.

Red gum, *eucalyptus rostrata.* Ord. *Myrtaceæ,* timber close-grained and durable, almost as hard as iron when dry; used for house-building, machinery, railway-sleepers, bridges, &c. H. 100-150. D. 3-6. *Habitat*—Rich soil on river banks and flats, Southern district.

Bloodwood, *eucalyptus corymbosa.* Ord. *Myrtaceæ,* timber durable, used for posts, piles, rails, &c.; very durable underground in damp situations. H. 80-100. D. 2-4. *Habitat*—Northern and Southern coast districts.

Hickory, *acacia sp.?* Ord. *Leguminosæ,* timber, tough, used for tool-handles, mallets, &c. H. 50-60. D. 12-15 inches. *Habitat*—Brush gullies, Southern coast district.

Woolybutt, *eucalyptus longifolia.* Ord. *Myrtaceæ,* timber used for felloes, shafts, spokes, agricultural implements, house-building, &c. H. 100-130. D. 3-4. *Habitat*—Rich, alluvial flats along river banks, Southern and other districts.

Messmate, *eucalyptus obliqua.* Ord. *Myrtaceæ,* timber splits freely, and is used for house-building, fencing, &c. H. 100-150. D. 3-4. *Habitat*—Southern coast districts.

Mountain gum, *eucalyptus sp.?* Ord. *Myrtaceæ,* timber very tough, and said to be the most durable and best timber in the Braidwood district; used for bridges, girders, planking, wheelwrights' work, &c. H. 100-150. D. 2-3. *Habitat*—On mountains, Southern coast districts.

Beech or Swamp Mahogany, *tristania suaveolens.* Ord. *Myrtaceæ,* timber used for buggy and coach frames, tool-handles, mallets, &c. H. 50-60. D. 12-18 inches. *Habitat*—Moist situations, Northern and Southern brush forests.

Stringy-bark (thin brown bark), *eucalyptus sp.?* Ord. *Myrtaceæ,* timber used for palings, rails, shingles and general building purposes. Bark used for roofing houses and sheds. H. 50-60. D. 15-18 inches. *Habitat*—Poor, stony ridges. Southern coast districts.

Stringy-bark (thick white bark), *eucalyptus sp.?* Ord. *Myrtaceæ,* timber similar in quality and used for same purposes as the preceding species. H. 50-60. D. 15-18 inches. *Habitat*—Poor, stony ridges, Southern coast districts.

Scrub Myrtle, *Backhousia myrtifolia.* Ord. *Myrtaceæ,* timber hard, tough and close-grained; used for tool-handles, mallets, &c. H. 20-30 D. 9 inches, 1 ft. *Habitat*—Damp places, Northern, Southern, and Western districts.

Blackbutt, *eucalyptus pilularies.* Ord. *Myrtaceæ,* timber strong and durable; much valued, and extensively used in house-carpentry, bridge-planking, ships' decks, cubes, &c. H. 100-150. D. 3-4. *Habitat*—Northern and Southern coast districts.

White box, *eucalyptus sp.?* Ord. *Myrtaceæ,* timber tough and durable; used for making harrows, ploughs, dray poles, and bodies, &c. H. 90-100. D. 2-3. *Habitat*—On rich, open forest land near the sea, Southern coast districts.

Beef-wood, *stenocarpus salignus.* Ord. *Proteaceæ,* timber red-coloured; used for making furniture, picture-frames, walking-sticks, veneering, fancy and coopers' work. H. 40-80. D. 1-2. *Habitat*—Brush forests, Southern and Northern districts.

Coachwood or lightwood, *ceratopetalum apetalum.* Ord. *Saxifragaceæ,* timber fragrant, light, soft, tough, and close-grained; used for joiners' and cabinet work, boat and coach-building, tool-handles, &c. H. 50-70. D. 1½-2. *Habitat*—Brush forests, Northern and Southern coast districts.

Round-leaved box, *eucalyptus sp.?* Ord. *Myrtaceæ,* timber hard, heavy, close-grained, and durable; used for making harrows, ploughs, bridges, &c. H. 50-60. D. 1½-2. *Habitat*—On open forest ridges, Southern coast districts.

Ribbon or bastard box, *eucalyptus tereticornis.* Ord. *Myrtaceæ,* timber heavy and close-grained; used for bridge and house building, ship-building, plough-beams, wheelwrights' work, &c. H. 50-80. D. 2-3. *Habitat*—Open forest ridges, Northern and Southern coast districts.

She ironbark, *eucalyptus paniculata.* Ord. *Myrtaceæ*, used for railway works, such as bridges, sleepers, carriages, &c.; timber very durable. H. 100-150. D. 3-4. *Habitat*—Northern and other districts.

Red ironbark, *eucalyptus leucoxylon.* Ord. *Myrtaceæ*, timber used for similar purposes to the preceding species; hard and durable. H. 80-100. D. 3-4. *Habitat*—Northern and other districts, common.

White ironbark, *eucalyptus crebra.* Ord. *Myrtaceæ*, timber used for railway and other works; is hard, tough, and durable. H. 100-150. D. 2-3. *Habitat*—Northern and other districts.

Grey gum, *eucalyptus saligna.* Ord. *Myrtaceæ*. timber hard and durable; excellent for railway sleepers and other purposes. H. 100-150. D. 3-5. *Habitat*—Northern coast districts.

Tallow-wood, *eucalyptus microcorys.* Ord. *Myrtaceæ*, timber used for flooring and other building purposes requiring strength and durability; wood, as local names implies, of a greasy nature. H. 100-150. D. 3-6. *Habitat*—Northern coast districts.

Water gum (small-leaved), *tristania neriifolia.* Ord. *Myrtaceæ*, timber hard, close-grained, and durable; used for axe and other handles, cogs of wheels, &c. H. 80-100. D. 1½-2. *Habitat*—Northern and Southern coast districts.

Broad-leaved apple tree, *angophora intermedia.* Ord. *Myrtaceæ*, timber subject to gum-veins; used for naves and spokes of wheels, blocks, &c. H. 80-100. D. 2-3. *Habitat*—Northern and Southern districts.

Black stave-wood, *tarrietia actinodendron.* Ord. *Sterculiaceæ*, timber strong and close-grained; used for staves and building purposes. H. 70-80. D. 3-4. *Habitat*—Northern brush forests.

Turpentine, *syncarpia laurifolia.* Ord. *Myrtaceæ.* One of the most valuable known timbers for piles in salt or fresh water, as it is proof against the teredo insect; used also for sleepers, ship-building, and other purposes requiring a strong and durable timber. H. 150-480. D. 4-5. *Habitat*—Brush and open forest country, nearly throughout the colony.

Maiden's blush, *sloanea australis.* Ord. *Tiliaceæ*, timber soft and durable, used for cabinet and ornamental purposes. H. 80-100. D. 3-4. *Habitat*—northern and southern coast districts.

Coachwood or light-wood, *ceratopetalum apetalum.* Ord. *Saxifragaceæ*, timber soft, tough, and durable; emitting an agreable fragrance; used for coach-building, staves, and cabinet-work. H. 100-150. D. 2-4. *Habitat*—Northern brush forests.

Flooded gum, *eucalyptus rostrata.* Ord. *Myrtaceæ*, an excellent durable timber, used for ship-building, flooring-boards, weather-boards, and building purposes generally. H. 100-150. D. 3-4. *Habitat*—Margin of brush forests and damp places, Northern and Southern districts.

Brush bastard or white box, *Tristania conferta.* Ord. *Myrtaceæ*, timber strong, hard, and durable; used in the construction of wharves and bridges, and for ship-building, &c. Much valued as an ornamental shade tree. H. 100-150. D. 3-5. *Habitat*—common in brush forests in Northern and Southern districts.

Large-leaved water gum, *Eugenia Ventenatii.* Ord. *Myrtaceæ*, timber close-grained, hard, heavy, tough, and beautifully marked; used for tool-handles, poles of drays, ribs of boats, &c. H. 40-60. D. 2-3. *Habitat*—Banks of water-courses, Northern brush forests.

Black myrtle, *Cargillia pentamera.* Ord. *Ebenaceæ*, timber close-grained, tough and durable. H. 80-100. D. 2-3. *Habitat*—Northern brush forests.

Swamp oak, *Casuarina quadrivalvis.* Ord. *Casuarineæ*, timber used for shingles and staves. H. 50-60. D. 1-2. *Habitat*—Southern and Western districts, on banks of creeks and marshy places.

White or broad-leaved tea-tree, *Melaleuca leucodendron.* Ord. *Myrtaceæ*, timber exceedingly hard, heavy, and close-grained; said to be almost imperishable under-ground in moist places; used for piles, posts, ship-building, &c. H.

40-50. D. 1-2. *Habitat*—Marshy places in Northern and Southern coast districts.

Lignum Vitæ, *Myrtus acmenoides.* Ord. *Myrtaceæ*, timber very hard, durable, and tough; used by coach-builders, &c. H. 60-70. D. 1½-2. *Habitat*—Northern brush forests.

Brush Cherry, *Eugenia myrtifolia.* Ord. *Myrtaceæ*, timber elastic; used for staves, oars, boat-building, &c. Fruit edible, acid, makes a good preserve. H. 50-80. D. 1½-2. *Habitat*—Brush forests, Northern and Southern districts.

Forest oak, *Casuarina torulosa.* Ord. *Casuarineæ*, timber used for shingles and cabinet-work. H. 60-80. D. 1½-2. *Habitat*—Common on open forest ridges, Northern, Southern, and Western districts.

Yellow-wood, *Flindersia Oxleyana.* Ord. *Meliaceæ*, timber yellow when fresh, hard, and used for cabinet purposes. H. 60-80. D. 2-3. *Habitat*—Northern coast districts.

Forest oak, *Casuarina torulosa.* Ord. *Casuarineæ*, timber used for shingles and cabinet-work. H. 60-80. D. 1½-2. *Habitat*—Common on open forest ridges, Northern, Southern, and Western districts.

Coachwood or lightwood, *Ceratopetalum apetalum.* Ord. *Saxifragaceæ*, timber fragrant, soft, close-grained and tough; used for cabinet and joiners' work, coach-building, &c. H. 100-150. D. 2-2½. *Habitat*—Northern brush forests.

Red ash, *Orites excelsa.* Ord. *Proteaceæ*, timber used for shingles, farm implements, and various purposes; it is hard and durable. H. 70-80. D. 2-3. *Habitat*—Northern and Southern brush forests.

Broad, long-leaved water gum, *Tristania laurina.* Ord. *Myrtaceæ*, timber hard, tough, and close-grained; used for tool-handles, cogs of wheels, &c. H. 50-60. D. 1-2. *Habitat*—Banks of creeks in shady places, Northern coast districts.

Brush cherry, *Eugenia myrtifolia.* Ord. *Myrtaceæ*, same as No. 19C, already described.

Beech, or white beech, *Gmelina Leichhartii.* Ord. *Verbenaceæ*, timber much valued for flooring-boards and ships' decks, &c.; silvery white, and not liable to shrink. H. 100-150. D. 3-4. *Habitat*—Northern brush forests.

Swamp mahogany, *Eucalyptus robusta.* Ord. *Myrtaceæ*, timber much valued for shingles, wheel-wrights' work, ship-building, and building purposes generally. H. 100-150. D. 2-4. *Habitat*—Swampy places in Northern, Southern, and Western districts.

Black iron-bark, *Eucalyptus sp.?* Ord. *Myrtaceæ*, timber used for girders, beams, and railway works; said to be a rare, distinct species, only recently discovered. H. 150-170. D. 2-3. *Habitat*—On the margin of and in the brush forests.

Prickly leaved tea-tree, *Melaleuca styphelioides.* Ord. *Myrtaceæ*, timber very hard, heavy, and close-grained; excellent for posts in damp situations, piles, &c., and said never to be known to decay. H. 50-80. D. 1½-2. *Habitat*—Damp situations, Northern districts.

Red cedar, *Cedrela australis.* Ord. *Meliaceæ*, one of the most useful and valuable timbers known, being very durable, easily worked, and most excellent for furniture and all descriptions of ornamental in-door work. H. 150-180. D. 4-8. *Habitat*—Chiefly confined to the gorges and eastern slopes of the northern coast ranges.

White cedar, *Melia australis.* Ord. *Meliaceæ*, timber soft, not durable, easily worked, and sometimes used for shingles; flowers fragrant; a good deciduous shade tree. H. 50-80. D. 3-4. *Habitat*—Moist places in the Northern brush forests chiefly.

Golden green wattle, *Acacia sp.?* Ord. *Leguminosæ*, timber sometimes used for axe-handles, &c.; the bark very valuable and in great demand for tanning purposes. H. 50-70. D. 1½-2. *Habitat*—Rich, moist flats, Northern coast district.

Mountain ash, *Genus?* Ord. *Sapindaceæ,* timber excellent for staves, oars, wheels, tool-handles, and for boat and house-building purposes; very durable, free from knots, and straight-grained. H. 150-200. D. 2-3. *Habitat*—Northern brush forests.

Yellow ceder, *Rhus rhodanthema.* Ord. *Anacardiaceæ,* timber yellow when fresh, close-grained, and useful for various purposes. H. 70-80. D. 2-3. *Habitat*—Brush forests, Northern districts.

Hoop, Moreton Bay or colonial pine, *Araucaria Cunninghamii.* Ord. *Coniferæ,* timber, white, easily worked, decays rapidly if exposed; used chiefly for in-door work. The pine from the mountains is preferred to that grown on the low-lands near the coast. H. 100-150. D. 4-5. *Habitat*—Mountains and brush forests, Northern district.

Laurel or white sycamore, *Sterculia discolor.* Ord. *Sterculiaceæ,* timbersaid to be good, but rarely used. H. 30-60. D. 1-2. *Habitat*—Forest brushes, Clarence and other Northern districts.

Light yellow-wood, *Genus?* Timber not used, but considered suitable for fancy purposes. H. 30-40. D. 1-2. *Habitat*—Brush forests, Clarence district.

Native tamarind, *Diplogottis Cunninghamii.* Ord. Sapindaceæ. Timber close-grained, durable; not used but suitable for various purposes. Fruit edible H. 40-60. D. 1-2. *Habitat*—brush forests, northern and southern districts.

Pencil cedar, *Soloanea Woollsii.* Ord. Tiliaceæ. Timber used for lining houses, &c. H. 40-50 D. 1-2. *Habitat*—Northern brush forests.

Beef-wood, *Stenocarpus salignus.* Ord. *Proteaceæ.* Timber red-coloured, hard, close-grained, and easily split; used for veneering, cooper's work, fancy-work, &c. H. 70-80. D. 2-3 *Habitat*—brush forests, northern and southern districts.

Three-veined myrtle, *Rhodamnia trinervia.* Ord. *Myrtaceæ.* Timber, hard, and close-grained; not used. H. 20-30. D. 1-1½. *Habitat*—brush forests, northern and southern districts.

Light Yellow-wood, *Daphnandra micrantha.* Ord. *Monimiaceæ.* Timber yellow when fresh, easily worked and takes a good polish. H. 40-60 D. 1-1½. *Habitat*—Clarence and other Northern brush forests.

Silky Oak, *Grevillea robusta.* Ord. *Proteaceæ.* Timber much valued for staves, lining houses, and other purposes. H. 70-80. D. 2-3. *Habitat*—northern brush forests.

Not known, *Genus?* Timber used for fancy purposes. H. 20-25. D. 1-1½. *Habitat*—Clarence brush forests.

Black Myrtle, *Cargillia pentamera.* Timber soft when fresh, tough and durable. H. 80-100. D. 2-3. *Habitat*—northern brush forests.

Not known, *Genus?* H. 20-30. D. 9-12 inches. *Habitat*—Clarence district.

Bastard Myall, *Acacia Cunninghamii.* Ord. *Leguminosæ,* Timber dark-coloured, hard, heavy, and close-grained; would be useful for cabinet purposes, H. 10-20 D. 9-12 inches. *Habitat*—northern and southern districts.

Sassafras or Bitter Bark, *Doryphora sassafras,* already described.

Cypress Pine, *Frenela Macleayana.* Timber used for indoor purposes. H. 20-30. D. 6-12 inches. *Habitat*—Northern districts.

Mountain Ash, *Genus?* Ord. *Laurineæ.* Timber described as good and suitable for various purposes, but not used. H. 30-40. D. 1-2. *Habitat*—mountain brush forests, Clarence district.

Sally Wattle, *Acacia sp.?* Ord. *Leguminosæ.* Timber good but not used. H. 20-30. D. 6-9 inches. *Habitat*—banks of creeks, northern districts.

Corkwood or Pitury, *Duboisia myoporoides.* Ord. *Scrophulariaceæ.* Timber white, soft, close-grained, and firm; used for carving and wood-engraving; bark resembles the cork oak, and it is used medicinally. H. 20-25. D. 1-2. *Habitat*—northern and southern districts.

White Bark, *Genus?* Ord. *Laurineæ.* Timber described as good, but not used. H. 20-30. D. 6-12 inches.—*Habitat*—northern brush forests.

Rosewood, *Dysoxylon Fraserianum.* Ord. *Meliaceæ.* Timber fragrant, and much valued for indoor work, furniture, cabinet-work, turning, wood-engraving, &c. H. 50-70. D. 3-4. *Habitat*—brush forests, northern districts.

White Beech, *Genus?* Timber used for flooring boards, ships' decks, &c. H. 70-80. D. 3-4. *Habitat*—Northern brush forests.

Black Apple, *Genus?* Ord. *Laurineæ.* Timber not used. H. 30-40. D. 9-12 inches. *Habitat*—northern brush forests.

Ironwood or Stavewood, *Tarrietia actinodendron.* Timber used for staves and building purposes. H. 50-70. D. 3-4. *Habitat*—northern brush forests.

Grass-tree, *Xanthorrhœa arboria.* Ord. *Liliaceæ.* A valuable gum or resin is obtained from the stem of this plant. H. 12-16. D. 6-12 inches. *Habitat*—northern and southern districts

Bangalow Palm, *Ptychosperma elegans.* Ord. *Palineæ,* a very ornamental feathery-leaved palm, stems sometimes used for fencing. H. 100-130. D. 6-9 inches. *Habitat*—Northern and Southern brush forests.

Black or Red Pine, *Frenela Endlicherii.* Ord. *Coneferæ,* timber beautifully mottled and striped with black, white, and yellow; much used and valued in the Lachlan and Murrumbidgee districts for the interior lining and roofing of houses, mantle-pieces, skirting boards, &c. H. 60-90. D. 1½-2. *Habitat*—dry sandy ridges, chiefly Lachlan and Murrumbidgee districts.

White or Common Pine, *Frenela robusta.* Ord. *Coneferæ.* Timber much used in the Lachlan and Murrumbidgee districts in the construction of weather-board houses, for fencing, telegraph poles, &c. This is the common scrub pine of the interior, millions of acres of land being so densely covered with it as to be rendered useless. H. 60-90. D. 1½-2. *Habitat*—rich flat and low sandy ridges, Lachlan and other interior southern districts.

Bull Oak, *Casuarina equisetifolia.* Ord. *Casuarineæ,* timber used for log fencing, gates, and shingles; not much valued. H. 30-40. D. 12-18 inches. *Habitat*—Rich soil, Lachlan and other interior southern districts.

She Oak, *Casuarina suberosa fœm,* timber used for bullock-yokes, malls, tool-handles, &c.; very valuable fodder trees.

He Oak, *Casuarina suberosa mas.* Ord. *Casuarineæ,* largely used and much valued in the interior districts as food for stock during periods of drought H. 20-30. D. 12-18 inches. *Habitat*—dry sandy ridges, Lachlan and other interior southern districts.

Red or flooded gum, *Eucalyptus rostrata.* Ord.—*Myrtaceæ.* Timber much valued for strength and durability, and extensively used for bridges, wagons, railway sleepers, wheelwrights' work, ship-building, &c., and largely used and greatly valued for durability as piles and posts in damp situations. H. 80-120. D. 6-8. *Habitat*—river flats subject to inundation, Murray River and other southern districts.

Red box, *Eucalyptus sp.?* Ord.—*Myrtaceæ.* This species is not generally known, but the timber is valued for fencing, and it is said to be one of the best kinds of the Southern box. H. 30-50. D. 1-2. *Habitat*—chiefly confined to dry, stony ridges in the Lachlan district.

White box, *Eucalyptus albens.* Ord.—*Myrtaceæ.* Timber durable; used for fencing, uprights, rafters, &c. H. 50-60. D. 1½-2. *Habitat*—principally on rich flat land; distributed over the Lachlan and other southern districts.

Yellow box, *Eucalyptus melliodora.* Ord.—*Myrtaceæ.* Timber hard, tough, durable, and close-grained; used chiefly by wood-engravers. An excellent shade tree. H. 40-50. D. 1½-2. *Habitat*—common in Lachlan, Murrumbidgee, and other Southern districts.

Stringy bark, *Eucalyptus obliqua.* Ord.—*Myrtaceæ.* Timber strong, hard, tough, and durable; used for posts in fencing, supports in mines, &c.; bark used for roofs of houses, &c. H. 80-100. D. 2-3. *Habitat*—chiefly on dry stony ridges, Lachlan and other districts, widely distributed.

Silver-leaved Boree or Myall, *Acacia sp.*? Ord.—*Leguminosæ.* Timber fragrant, hard, heavy, tough, and close-grained; used for cabinet-work, veneering picture frames, pipe-making, &c. This is one of the most valuable fodder trees in the Lachlan and Murrumbidgee districts. H. 20-30; D. 9 inches—1 foot. *Habitat*—generally fringing the margin of plains, in rich moist soil, Lachlan and other southern districts.

Yarren or Myall, *Acacia sp.* ? Ord.—*Leguminosæ.* Timber similar to Boree; used for stockwhip handles, cabinet-work, pipes, picture-frames, veneering, &c.; leaves eaten by stock, but not so good feed as Boree. H. 20-30. D. 9 inches 1 foot. *Habitat*—intermixed with box, pine, and other trees, Lachlan and other southern districts.

Currawang or Spear-wood, *Acacia doratoxylon.* Ord.—*Leguminosæ,* Timber hard, tough, heavy, and close-grained; used for gates, buggy-poles, furniture, &c., and by the aboriginals for boomerangs and spears; leaves eaten by stock. H. 20-30. D. 9 inches—1 foot. *Habitat*—chiefly on summit of dry stony ridges, Lachlan and other southern districts.

Umbrella bush, *Acacia sp.* ? Ord.—*Leguminosæ,* Timber similar to and used for same purposes as Yarran; leaves eaten by stock; and it is an excellent shade tree. H. 15-20. D. 6-9 inches. *Habitat*—open plains or margin of plains, in rich moist soil, Lachlan and other southern districts.

Cuba or Native Willow, *Acacia salicina.* Ord.—*Leguminosæ.* Timber tough and hard, but not used; a good shade tree; leaves eaten by stock. H. 30-40. D. 1-1½. *Habitat*—banks of creeks and moist places, Lachlan and other southern districts.

Silver Wattle, *Acacia decurrens, var mollis.* Ord.—*Leguminosæ.* Timber similar in quality to green wattle, and used for same purposes; bark used for tanning, H. 20-30. D. 6-9 inches. *Habitat*—intermixed with yellow box, pine, &c., Lachlan and other districts.

Green Wattle, *Acacia decurrens.* Ord.—*Leguminosæ.* Timber light, tough, and strong; used for staves; bark used for tanning. H. 30-40. D. 1-1½. *Habitat*—moist, shady places; southern, western, and northern districts.

Wilga, *Genus* ? Timber not used; a very handsome spreading shade tree; leaves eaten by stock. H. 40-50. D. 1-1½. *Habitat*—Lachlan and other southern districts.

Quandong, *Fusanus acuminatus.* Ord. *Santalaceæ.* Timber hard and close-grained; used for cabinet-work. Fruit makes excellent tarts and jelly, of the same flavour as black guava; seeds used for necklaces, bracelets, and other ornaments. H. 15-20. D. 6-9 inches. *Habitat*—Lachlan and other southern districts.

Native cherry, *Exocarpus cupressiformis.* Ord.—*Santalaceæ.* Timber close-grained; used for turning and cabinet purposes. A handsome shade tree. H. 15-20. D. 6-9 inches. *Habitat*—Southern, northern, and western districts.

Black Wattle, *Acacia hakeoides.* Ord. *Leguminosæ.* Timber not used; a very common scrub pest in the Lachlan and Murrumbidgee districts. H. 8-12. D. 3-6 inches. *Habitat*—Lachlan and other southern districts.

Emu bush, *Heterodendron oleæfolium.* Ord.—*Sapindaceæ.* Timber very hard and heavy; used for rollers, &c. Seeds eaten by emus. H. 15-20. D. 6-9 inches. *Habitat*—Lachlan and other southern districts.

Dog-wood, *Geijera parviflora.* Ord. *Rutaceæ,* Timber close-grained, not used; leaves of broad-leaved species eaten by stock. H. 15-20. D. 9-12 inches. *Habitat*—Lachlan and other southern districts.

Pin or Needle Bush, *Hakea leucoptera.* Ord. *Proteaceæ.* Timber not used; a common and useless scrub in Lachlan district. H. 12-15. D. 3-6 inches *Habitat*—Lachlan and other southern districts.

Giant Hopbush, *Dodnæa lobulata.* Ord. *Sapindaceæ.* Timber hard and close-grained, not used; one of the best fodder shrubs in the Lachlan district. H. 10-15. D. 3-6 inches. *Habitat*—Lachlan and other southern districts.

(No specimen forwarded.)

Kurrajong, *Sterculia diversifolia*. Ord. *Sterculiaceæ*. Timber soft, fibrous, and useless; leaves eaten greedily by stock. A strong fibre is obtained from the bark, and it is a most ornamental shade tree. H. 40-50. D. 2-3. *Habitat*—Chiefly confined to dry, stony ridges, Lachlan and other districts.

Ironbark, *Eucalyptus leucoxylon*. Ord.—*Myrtaceæ*. Timber hard, heavy, close-grained, strong, and durable; used for railway sleepers, girders, uprights, piles, posts, &c., and for the same purposes as red gum. H. 60-70. D, 2-3. *Habitat*—Dry stony ridges, Lachlan and other districts.

Specimens of leaves. Obtained for the Commissioner by the Forest Rangers under the Department of Mines.

Specimens of seeds of New South Wales timbers procured for the Commission by the Forest Rangers under the Department of Mines.

Specimen planks of timber and turnery prepared for the Commissioners and at their expense, by Messrs. John Taylor & Co. of Sussex Street, Sydney.

Cedar.—One of the most valuable timbers growing in the Colonies. The greater portion of the cedar used in Sydney comes from the northern rivers of New South Wales. Extensively used for superior fittings in large buildings, and also for cabinet-work. Retail price in Sydney, about 7d. per superficial foot up to 18 inches wide.

Colonial Pine.—Also grows on the northern rivers. Largely used for all rough purposes in house-building and box-making; also used for flooring-boards. Retail price in Sydney at present, about 21s. per 100 superficial feet.

Tallow-wood.—One of the best descriptions of hardwood to be obtained in the Colonies for building purposes, having a greasy nature resembling Indian teak. Retail price about 18s. per 100 superficial feet. Grows extensively on the northern rivers.

Spotted Gum.—A timber growing on the rivers both north and south of Sydney, mostly used for ship-building work. Retail price about 17s. per 100 superficial feet.

Buninyong.—A brush timber growing on the northern rivers. Has never been used very extensively, but is well adapted for turnery and coach-building works. Retail price, about 25s. per 100 superficial feet.

Blue gum.—A timber growing on the northern rivers. Largely used by ship-wrights and wheelwrights. One of the best kinds of timber growing in the Colony. Retail price, about 17s. per 100 superficial feet.

Yellow-wood.—A brush timber growing on the Richmond River. Used only for turnery and cabinet-work. Retail price, about 25s. per 100 superficial feet.

Ironbark.—A timber growing on the rivers to the north and south of Sydney. Generally used for railway purposes and girder beams for buildings. Retail price, about 2s. 6d. per cubic foot for hewn ironbark, and 25s. per 100 superficial feet for sawn timber.

Grey Ironbark.—A timber growing in the same districts as the above, used for the same purposes, and selling at about the same price.

Red Bean.—A brush timber growing on the northern rivers. Used for wheel-wrights' and coach-builders' work Retail price, about 25s. per 100 superficial feet.

Beech.—A timber growing on the northern rivers. Largely used for house and ship work and block-making; also used for flooring boards. Retail price, from 28s. to 30s. per 100 superficial feet.

She Beech.—A timber growing in the same districts as the above, used for the same purposes, and selling at about the same price.

Black-butt.—Grows on the rivers to the north of Sydney. One of the best timbers obtainable for house and ship-building; also used extensively for street-paving cubes. Retail price, about 17s per 100 superficial feet.

Mahogany.—A timber growing on the northern rivers. Used for fencing and general purposes. Considered to be able to stand a long time under-ground. Retail price, about 17s. per 100 superficial feet.

Black Plum.—A brush timber growing on the Richmond River. Used for coach-building work. Retail price, about 25s. per 100 superficial feet.

Collection of timbers (transferred from Amsterdam). (Obtained and prepared for the Commission by Messrs. John Taylor & Co., of Sussex Street, Sydney.)

Also, further collection prepared for the Commission by Messrs. Hudson Bros., and consisting of the following timbers: *Blackwood* (two varieties), *Mountain Ash*, *Brushwood*, *Beech*, *Sassafras*, *Marblewood*, and *Rosewood*.

Also, a plank of cedar prepared for the Commission by Mr. Walter Stewart, cedar merchant, of Pitt Street, Sydney.

CLASS LVII.—SOAP, TALLOW, WAX, AND MANUFACTURES OF OLEAGINOUS SUBSTANCES.

E. W. G. Co. (A. Geddes), 2, Young Street, Circular Quay, Sydney.—Potash wool-scouring soap.

REGAN, DANIEL, Tamworth.—Household soap

SMALLWOOD, D. J., Caddia Road, Pitt Town, Hawkesbury River.—Wax.

SMITH, A. L., Sussex Street, Sydney—

Eucalyptus soap.
Extract of soap.
Carbolic soap.
Mottled soap.
Pale yellow soap, No. 1.
Crown soap.
Soft soap.

CLASS LVIII.—HIDES, HORNS, HAIR, BRISTLES, &C.

E. W. G. Co. (A. Geddes), 2, Young Street, Circular Quay, Sydney.—Glue.

SAMUEL, L. & E., 3, Spring Street, Sydney.—Glue.

CLASS LIX.—LEATHER AND MANUFACTURES OF LEATHER.

BEGG & SON, Glenmore Road, Rushcutter's Bay, near Sydney.—Sole leather, 10 sides.

CRAWFORD, A. R., Moona Plains, Walcha—

Plaited breaking-in halter.
Two hobbles for camping-out; made of green hide.

E. W. G. Co. (A. Geddes), 2, Young Street, Circular Quay, Sydney.—Leather, fancy descriptions.

FORSYTH & SONS, JAMES, 17, George Street West, Sydney.—Sole leather.

GUERIN, PATRICK, 296, Elizabeth Street, Sydney.—Saddlery and harness.

HODGSON, EDMUND, 601, George Street, Sydney.—Kangaroo skin whip-thongs.

KNIBBS, J. H. & SONS, 9, Municipal Stores, Market Wharf, Sydney.—Leather mill-belting.

LANCASHIRE, J. B., Junr., 226, Pitt Street, Sydney.—Lady's dress-trunk, made from Colonial solid leather.

ROURKE, JOHN, High-street, West Maitland.—Stock saddle.

CLASS LXII.—SILK, RAW, COCOON, AND THREAD.

BOWMAN, JANE A., Arrowfield, Jerry's Plains.—Silk.
Produced by silkworms reared at Jerry's Plains.

CLASS LXIII.—WOOL, RAW, AND YARNS.

ALLEN, JOHN, Executors of the late, Stony Creek, Young.—Grown at Stony Creek, Young. Merino, rams' combing; greasy; pure bred; station flock, from sheep originally imported from Tasmania, and one ram imported from Tasmania. Growth of 354 days; most of the time a very dry season.

Merino combing, ewes'; greasy; pure bred; progeny of sheep originally imported from Tasmania; growth of wool, 354 days, most of the time a very dry season, and the ewes rearing lambs.

BALFOUR, JAMES, Round Hill, near Albury.—(Exhibited under auspices of Albury Agricultural and Horticultural Society; Geo. E. Mackay, Secretary). Grown at Round Hill. Merino rams' wool. Merino hogget's wool.

BETTINGTON, J. B., Lindley Park, Collaroy, Merriwa.—Grown at Lindley Park. One bale merino, greasy (1st sample). One bale merino, greasy (2nd sample). Merino, greasy (1st sample). Merino, greasy (2nd sample).

BUCHANAN, W. F., Killarney, Narrabri —Grown at Killarney. Merino rams' greasy. Merino ewes' ; greasy.

CAMPBELL, D. H., Cunningham Plains, Cunningham.—Grown at Cunningham Plains. Merino ewe, greasy.

CLARK BROS., Gullendaddy, Boggabri.—Grown at Gullendaddy, Liverpool Plains, Lincoln, greasy ; picklock. Merino, greasy ; one commercial bale. Lincoln, greasy ; one commercial bale. Merino, greasy ; picklock.

COLLINGWOOD WOOL-SCOURING AND FELLMONGERING WORKS, Liverpool.—Scoured slipe wool ; no chemicals used ; particulars as to age, growth, or sex to be obtained. Branded CWD in parallelogram over Collingwood.

COX, G. H., Mudgee.—Grown at Mudgee. Merino rams' wool. Merino ewes' wool. Merino rams' wool.

D'ARCHY, F. E., Oxley —Grown at Oxley. Ewe hoggets ; growth of 11 months ; scoured ; super combing.

DOUGLAS, H. & C., North Yanco, by Narandera.—Grown at North Yanco. Australian merino ewes' ; age, 2 years ; greasy. Grown at Walla Walla, Albury. Merino, greasy, rams' wool.

DOUGLAS, H. & C., Walla Walla, Albury.—Grown at Walla Walla. Merino hoggets' wool.

DOWLING, Vincent, Lue, Rylstone.—Grown at Lue, Mudgee district. Greasy, ewes' wool, 11 months' growth. The Lue stud flock was formed in 1823 from imported pure merino sheep, direct descendants of King George III's Spanish Merino flock. Other sheep were obtained from Mr. Riley of Raby, who had imported sheep from the Elector of Saxony's pure merino flock. In the year 1835 a few sheep were introduced from the flocks of Messrs. Gadegast and Steiger, of Saxony.

Greasy rams' wool, 12 months' growth.

FETHERSTONHAUGH, C., Goorianana, Baradine.—Grown at Goorianana, Liverpool Plains. Hogget rams, not shorn as lambs ; 15 months' growth. These sheep are of Mudgee and Collaroy blood.

GRANT & CHILDE, Chah Sing, Moulamein.—Grown at Chah Sing, Riverina district. Four skirted fleeces, greasy wool.

GRAY & NEILL, Sandy Ridges, Corawa.—Grown at Sandy Ridges. Merino ewes, greasy ; fed on indigenous grass paddock only. Merino hoggets, shorn as lambs ; indigenous grass paddock only. Merino ewes, greasy ; commercial bale ; grass fed only.

HAIGH & SON, Henry, Moorbank, Liverpool.—Scoured wool.

HAMMOND & Co., Thomas W., Junee.—Grown at Junee Station. Merino, fine combing, greasy, full-mouthed ewes ; sheep bred from station ewes, being from Mudgee and Tasmanian stock originally ; paddock-fed. Merino fine combing, two-teeth ewes, shorn as lambs ; sheep bred from Tasmanian and Mudgee stock, sires being Tasmanian bred and ewes station bred ; paddock-fed.

HARDEN, ARTHUR L., Manilla, Tamworth.—Grown at Manilla station. Merino, greasy fleece wool ; sheep bred from Mudgee and Colley Creek rams. Merino, washed fleece wool ; sheep bred from Mudgee and Colley Creek rams.

HAY & SONS, WILLIAM, Boomanoomana, Mulwala, Murray district.—Merino, paddocked.

HILL, W. C., Butterbone, Macquarie River.—Grown at Butter bone. Merino, heavy combing ; Collaroy special stud flock.

LACKEY, WALLACE, & MILLS, Nubba, Wallendbeen.—Grown at Nubba. Merino rams'; scoured. Merino rams' wool; washed. Merino ewes'; washed. Merino ewes'; greasy. One single ewe fleece.

LORD, HONOURABLE FRANCIS, Burrawong, Melong.—Grown at Burrawong. Merino rams'; greasy. Merino ewes'; greasy. Merino ewe hogget; greasy.

LOUGHNAN, MCCALLUM, & Co., Nelyambo, Wilcannia.—Grown at Nelyambo. Merino, greasy; produce of ordinary station flock. Merino scoured; wool from ordinary station flock.

MACDONALD, JOHN M. L., Wallabadah.—Grown at Wallabadah. Merino ewes' skirted fleece; greasy; pure bred; Wallabadah stud flock.

MAUCHEE, JOHN CHARLES, Glen Moan, Murrurundi.—Grown at Phillips Creek, Liverpool Plains. Merino ewe hoggets; greasy long combing; bred from Collaroy rams.

M'CAUGHEY, SAMUEL, Coonong, Urana.—Grown and bred at Coonong. Merino combing; greasy.

MITCHELL, JAMES, Table Top, Yambla, near Albury.—(Exhibited under auspices of Albury Agricultural and Horticultural Society; Geo. E. Mackay, Secretary.) Grown at Table Top. Merino wool. Merino combing; pure bred; station bred; progeny of Ercildoun rams.

MORTON, C. J., Jindera, near Albury.—(Exhibited under auspices of Albury Agricultural and Horticultural Society; Geo, E. Mackay, Secretary.) Grown at Jindera. Lincoln hogget's wool.

MULHOLLAND, GEORGE JAMES, Oura, Wagga Wagga.—Grown at Oura. Commercial bale; general flock. Combing greasy; stud flock.

ORMOND & BROOKE BROTHERS, Tapio, Wentworth.—Grown at Tapio. Unskirted fleeces.

SLOANE, ALEXANDER, Mulwala.—Grown at Mulwala Station. Merino rams' and ewes; depastured in paddocks.

SUTTOR, F. B., Bradwardine, Bathurst.—Grown at Bradwardine. Merino ewes'; greasy. Merino scoured.

TRAILL BROTHERS, Llangollen, Cassilis.—Grown at Llangollen. Merino combing; maiden ewes. Depastured on mountainous country; fed on natural grasses only. Merino combing; ewe hogget; depastured on mountainous country; fed on natural grasses only. Merino combing; hogget ram; depastured on mountainous country; fed on natural grasses only.

WATSON, SAMUEL, Gerogery, near Albury.—(Exhibited under auspices of Albury Agricultural and Horticultural Society; Geo. E. Mackay, Secretary.) Grown at Gerogery. Merino rams'. Merino hoggets' wool. Natural pastures.

WHITE, J. F. & H., Beltrees, Scone.—Grown at Beltrees. Merino, greasy.

WHITE, F. R., Harben Vale, Blandford.—Grown at Harben Vale. Australian Merino rams' in the grease; pure bred by exhibitor, from his own stock. Australian Merino ewes' in the grease; pure bred by exhibitor for many years, from his own stock.

WHITE, H. C., Havilah, Mudgee.—Grown at Havilah. Pure Merino, wool in grease; bred from pure Spanish blood. Pure Merino ewes, paddock-fed. Grown by exhibitor from his Havilah flock (formerly N. P. Bayley's). Pure Australian Merino ewe hoggets, 13 months; growth of wool, 400 days; paddock-fed.

WHITTY, HENRY TARLTON, Tarramia, Corowa.—Grown at Tarramia, Riverina, Corowa. Merino combing; greasy; first quality. Merino, combing; scoured.

CLASS LXVII.—OTHER FIBRES AND MANUFACTURES FROM RAW PRODUCTS.

CRAVEN, T. W., 164, Sussex-street, Sydney.—Brooms and whisks.

Millet brooms manufactured on the Hunter River, four qualities, half-dozen of each.

This is an important industry, large qualities of these brooms being made by various makers, and sold in the Sydney market, at prices ranging from 8*s.* per dozen to 16*s.* per dozen.

Hand whisks, made from millet grown on the Hunter River.

JEWELL, EDWARD, Botany, near Sydney.—Plough reins, halters (in variety), halliards, windowblind cord, whip cord, common clothes lines, cablelaid, No. 1, cablelaid, No. 2, traces, tiller ropes, sash cords, twine.

LUSIGNAN, G. A. de, Sydney.—Aloe fibre.

This exhibit was grown in the Mauritius, but cleaned by machinery made in Sydney, patented by G. A. de Lusignan.

PENAL DEPARTMENT OF NEW SOUTH WALES.—J. C. Read, Esq., Governor of H. M. Gaol, Darlinghurt, Sydney.—Rugs, mats, and matting manufactured by prisoners in H. M. Gaol, Darlinghurst, Sydney, N. S. W.

CLASS LXXII.—BUILDING MATERIALS, INCLUSIVE OF CEMENT.

COCHRANE, GEORGE, Moubray Park, St. Leonards.—Bricks, tiles.

O'NEILL, CHARLES, M.I.C.E., 225, Elizabeth-street, Sydney.—Patent artificial Caithness flagging, group flagging or artificial stone, patent artificial kerbing and channelling.

CLASS LXXIV.—GUMS AND RESINS.

CRAWFORD, A. R., Moona Plains, Walcha.—Gums and resins from the blood-wood, apple-tree, white gum, and grass-tree.

The gum of the blood-wood is obtained by tapping a gum vein on the tree in spring or autumn. A good tree in proper season will give half a gallon of gum. It is a powerful astringent in diarrhœa. The gum resin of the apple-tree *(Angophera)*, and gum from the white gum-tree, may be similarly obtained. About a gallon of gum is obtainable in the proper season from the white gum, the product being also an astringent. Resin of the grass-tree *(Xanthorrhœa)*, used for varnish, lacquer, &c.

KNIBBS, J. H. AND SONS, Market Wharf, Sydney.—Gum accroides.

SOMERVILLE, WILLIAM, 227, Sussex-street, Sydney.—Gum accroides, being a resin from *Xanthorrhœa hastilis.*

Product of *Xanthorrhœa hastilis*, a native tree of New South Wales. 300 tons of it have been shipped to London during the past twelve months. Sample exhibit is a good marketable sample, worth in Sydney £14 per ton.

Uses of Gum Accroides.—It is used in the manufacture of picric acid, by dissolving the gum (or rather we should say resin) in strong nitric acid; violent frothing takes place, red vapours are given off, and a dark red solution is formed, which becomes deep yellow after boiling. This solution is evaporated over the water-bath, and the remaining yellow crystalline mass, together with picric acid, contains small quantities of oxalic and nitro-benzoic acids. It is then neutralized with potash, and the picrate of potassium is purified by two crystallizations, and then treated with hydrochloric acid, which separates the picric acid, to be again purified by two crystallizations. The amount of picric acid thus formed is about half the weight of the gum used in its manufacture. An excellent spirit varnish is made from this gum, by adding to about one gallon methylated spirit (cold)—about 2½ lbs. gum, about ¾ lb. common resin, and about ½ lb. shellac—then strain through muslin cloth. This varnish must be used upon dry work, and is easily applied to our climate; if found not to answer in cold or damp climates, we would suggest it should be tried in a warm, dry room. The gum is used for staining wood, and also in the manufacture of sealing-wax, brass lacquer, japan gold size, sealing-wax, and picric acid. It is similar in composition to tolu balsam, and is readily soluble in caustic soda and other alkali. About 3 per cent. of the gum is added as an ingredient in the manufacture of soap; to the latter it imparts a fragrant smell and a brown colour.

CLASS LXXVII.—COLOURS, PAINTS, VARNISHES.

CRUMP, W., Off 614, George Street, Sydney.—French Polish Reviver, Piano and Furniture Renovator.
E. W. G. Co. (A. Geddes), 2, Young Street, Circular Quay, Sydney.—Ink for branding, marking, or printing.
HILL, GEORGE, 796, George Street, Sydney (Factory: Trafalgar-street, Annandale, near Sydney).—Colonial manufactured blacking, in tins.

CLASS LXXVIII.—TOBACCO.

BRIDLE, WM., Rosevale, Tumut.—Oronoco tobacco leaf, grown at Tumut.
COHEN & LEVY, Tamworth.—Tobacco leaf,
HUTCHISON, JAMES, Singleton.—Tobacco leaf.
STOREY & CRAGO, John Street, Singleton.—Tobacco leaf.
SUTTON, A. W., 284, George Street, Sydney,—Tobacco: seven varieties of tobacco leaf grown in New South Wales.
YOUNG, O. K., High Street, West Maitland.—Tobacco leaf.

CLASS LXXIX.—CHEMICALS.

HOGG & Co., S. P., 12, Wynyard Lane, Sydney.—Baking-powder.
SELFE, GILBERT, Manufacturing Chemist, Oxford Street, Sydney.—Chemicals; also including specimens of native ores, &c., from which they were manufactured by the exhibitor.

CLASS LXXX.—MATERIALS USED FOR BLEACHING, TANNING, AND CURRYING.

LAVERS, J. V., 117, Redfern Street, Redfern, Sydney.—"Printer's friend," for cleaning type.

SECTION G.—MACHINERY AND IMPLEMENTS, MEANS OF TRANSPORT, APPLIANCES, AND PROCESSES USED IN THE COMMON ARTS AND INDUSTRIES, INCLUDING MODELS AND DESIGNS.

CLASS LXXXIII.—RAILWAY PLANT AND ROLLING-STOCK—TRAMWAYS.

HUDSON BROTHERS (Limited), Sydney and Granville.—Patent frictionless bearing spring.
PATON, JOHN, 24, Pitt Street, Redfern, Sydney.—Tram rail.

CLASS LXXXV.—MINING AND METALLURGY.

RAILWAY DEPARTMENT OF NEW SOUTH WALES, Locomotive Branch, Government Railway Works, Sydney.—Exhibits prepared by Conrad Icke, of the Locomotive Branch, late of Newcastle, N.S.W.

Icke's Phosphor-bronze.

B. P. 1.

Bearings for any kind of machinery of any *weight, power,* or *speed, without* danger of heating (proved to be five times more durable than gun-metal); steam-slides, valves, excenterings, tooth or cog wheels, brakes of any description, &c.

B. P. 2.

Suitable for any part of machinery, as shaft-rings, cylinders for bearing-rings, drill machines, &c.; plates, wires, ornamental castings, &c. Possesses the qualities of first class forged iron.

B. P. 3.

Phosphor-bronze. Casting showing a break; durable, forgeable, and malleable.

B. P. 4.

Particularly adapted for the manufacture of tools for powder-mills and utensils for chemical laboratories, because it will never emit sparks, not even on a grindstone.

Two slide-valves, 2 pair bearings, 3 pieces forged and bent, 1 coupling annealed, consisting of steel, forged iron, and phosphor-bronze. The slide was used in a locomotive on the New South Wales Government Railway for a term of 3 years 4½ months, traveiled a distance of 80,000 miles, and lost only three-eights of an inch in thickness. It is considered fit to go another 80,000 miles with perfect security.

Icke's phosphor white metal.

Hard metal, invented and produced by the exhibitor, for filling out of locomotive and waggon axle-bearings, &c. It is estimated to be three times more durable than any other white metal.

CLASS LXXXVIII.—CIVIL ENGINEERING AND ARCHITECTURE.

HOSKING, F. G., Crown Street, Wollongong.—Model of Wollongong harbour.

PARROTT (C. E.) and ROBERTS, Sydney Arcade, Sydney.—Engineering plans.

1. One plan (framed and glazed), showing plan and elevation of proposed bridge, Sydney to North Shore, with plan of site, 4′ 6″ × 3′.
2. Perspective drawing of same bridge, 3′ 6′ × 2″.

CLASS XC.—CARRIAGES AND VEHICLES, WHEELRIGHT'S WORK.

PRESTON & Co., Australian Wheel Factory, Abercrombie Street, Sydney.—Wheels, felloes, spokes, shafts.

CLASS XCII.—BLACKSMITH'S-WORK, LOCKS, SAFES, &C.

BRADFORD, D. & R., Elizabeth Street, Sydney.—Cast-iron gate-post, fancy balcony railings.

DADD, EDWARD, 59, Old South Head Road, Paddington.—Horse shoes, for various purposes.

JONES, EVAN, Royal Arcade and Hunter Street, Sydney.—Press for coining, made at the Atlas Foundry, in New South Wales, from Colonial iron.

CLASS XCIII.—CARPENTER'S WORK, JOINERY, &C.

COOK, W. & H., 225, Elizabeth Street, Sydney.—Samples of packing-cases, boxes, tea-chests.

CLASS C.—PRINTING, TYPE-MAKING, RULING, BOOK-BINDING.

BAILEY & KERR, 111, King Street, Sydney.—Printing machine and type.

HELLYER, R., 97, Bathurst Street, Sydney.—Roller stamp.

CLASS CII.—FIRE-ENGINES, EXTINCTEURS, PUMPS, CRANES, GAUGES, REGISTERING INSTRUMENTS.

TATHAM, EDWIN, & Co., Mullens Street, Balmain, Sydney.—Patent fire alarm.

CLASS CIII.—ELECTRO-PLATING.

HELLYER, R., Bathurst Street, Sydney.—Electro-plated tea and coffee service, egg-frames, bottle cruets.

SECTION H.—FOOD PRODUCTS.

CLASS CXV.—BREAD-STUFFS AND ARTICLES MADE THEREFROM.

AIKEN BROTHERS, Tamworth.—Flour.
ATKIN & HORDER, John Street, Singleton.—Flour, white, and maize-meal.
BOYLSON & SONS, M., Bathurst.—Flour.
COHEN & LEVY, Tamworth.—Flour.
CONOLLY, M., Argyle Flour-mills, Goulburn.—Flour, two yellow exhibits.
CRAGO, FRANCIS, Bathurst. (E. G. Barker, York Street, Sydney, Agent.)—Flour.
DALTON BROTHERS, Summer-street, Orange.—Flour.
FERGUSON BROTHERS, Wellington (E. G. Barker, York Street, Sydney, Agent).—Flour.
JINDERA FLOUR MILL, Jindera, near Albury.—(Exhibited through the Albury Agricultural and Pastoral Society; George E. Mackay, Secretary.)—Flour.
KITE, WILLIAM, Britannia Mills, Bathurst.—Flour.
MATTHEWS & SON, G., Bathurst.—Flour.
PALMER, C. C., Moama (E. G. Barker, York Street, Sydney, Agent).—Flour.
SCOTT, W. F., Orange.—Flour.
STOREY & CRAGO, John Street, Singleton.—Flour.
TREMAIN, W., Bathurst, (E. G. Barker, York Street, Sydney, Agent).—Flour.
WEBB & Co., Bathurst.—Flour.
WOSTENHOLME, JOHN, West Maitland.—Flour.

CLASS CXVI.—ARROWROOT, TAPIOCA, SAGO, &c.

LAURIE, ALEX. T., Rawdon Vale, Port Stephens District.—Arrowroot.
This exhibit is the product of the *Canna edulis*, or great Indian arrowroot, which grows freely throughout New South Wales, and yields abundantly. The exhibitor obtained over two tons of the manufactured article from one acre of land, in one crop. The nutritive properties of this plant are equal to those of any other starch-yielding plant.
MUNN, A. L., Merimbula.—Maizena.
WADE & Co., JOHN, Dungog.—Corn flour.

CLASS CXVII.—BUTTER.

BLENCOWE, THOMAS, Wild's Meadows, Burrawang, near Moss Vale.—(Shown under the auspices of the Burrawang Farmers' Club and West Camden Agricultural Society.)—Butter.
BRANDON, THOMAS, Burrawang, near Moss Vale. (Shown under the auspices of the Burrawang Farmers' Club and West Camden Agricultural Society.)—Butter.
BRESNAHAN, D., Wild's Meadows, Burrawang, near Moss Vale.—(Shown under the auspices of the Burrawang Farmers' Club and West Camden Agricultural Society.)—Butter.

BURRAWANG FARMERS' CLUB & WEST CAMDEN AGRICULTURAL SOCIETY, Burrawang, near Moss Vale. (Mr. A. A. Dunnicliff, J. P., President; Mr. S. K. Miller, Hon. Sec.)—Butter.

CANDELO BUTTER COMPANY, 37 Sussex Street, Sydney, W. F. Harris, Sole-Agent. —Fresh and salt butter (tinned).

CANNON, Manes, Licchhardt Street, Waverley, Sydney.—Butter in jars or tins.

CRAVEN, T. W., 164, Sussex Street, Sydney.—Butter in tins. Five tins, each 1 lb.

GRAHAM, JAMES, Spring Valley Farm, Burrawang, near Moss Vale.—(Shown under the auspices of the Burrawang Farmers' Club and West Camden Agricultural Society.)—Butter.

GRICE, JOSEPH, J. P., Wild's Meadows, Burrawang, near Moss Vale.—(Shown under the auspices of the Burrawang Farmers' Club and West Camden Agricultural Society.)—Butter.

HAYTER, JEREMIAH, Burrawang, near Moss Vale.—(Shown under the auspices of the Burrawang Farmers' Club and West Camden Agricultural Society.)—Butter.

MILLER, J. R., M'Clintock Farm, Burrawang, near Moss Vale.—(Shown under the auspicies of the Burrawang Farmers' Club and West Camden Agricultural Society.)—Butter.

MOORE, JOHN, SEN. Wilds' Meadows, Burrawang, near Moss Vale.—(Shown under the auspices of the Burrawang Farmers' Club and West Camden Agricultural Society.)—Butter.

M'GRATH, JOHN, Burrawang, near Moss Vale.—(Shown under the auspices of the Burrawang Farmers' Club and West Camden Agricultural Society.) —Butter.

SEERY, THOMAS, Yurrang, Burrawang, near Moss Vale.—(Shown under the auspices of the Burrawang Farmers' Club and West Camden Agricultural Society.)—Butter.

SOUTH COAST AND WEST CAMDEN CO-OPERATIVE CO.—Office, Sussex Street, Sydney.—(Manager, John Graham.)—Butter.

TURNBULL, MRS. J., Spring-grove Farm, Burrawang, near Moss Vale.—(Shown under the auspices of the Burrawang Farmers' Club and West Camden Agricultural Society.)—Butter.

VANCE, W., Burrawang, near Moss Vale.—(Shown under the auspices of the Burrawang Farmers' Club and West Camden Agricultural Society.)—Butter.

CLASS CXVIII.—GHEE, LARD, AND OTHER FATTY SUBSTANCES.

ANDERSON AND FORTINTON, Double Creek Factory, near Bega.—Cheese. [*Vide* Foley Brothers, under this class.]

BLACK, JOHN MARSHALL, Ayrdale Cheese Factory, Wolumla.—Cheese.

CANDELO BUTTER CO., Sussex Street, Sydney.—(W. F. Harris, Agent.)—Cheese.

CRAVEN, T. W., 164, Sussex Street, Sydney.—Cheese and lard.

FOLEY BROTHERS, 113, Sussex Street, Sydney.—Cheese.
Manufactured respectively by P. H. Wood, of Yarranung, near Bega, and Anderson and Fortinton, of Double Creek Factory, near Bega.

HANSCOMBE, WILLIAM, Nambugga Factory, Bega.—Two cheese.

JAUNCEY, JOHN, Angledale, Bega.—Cheese.

OTTON, JOHN, Bega.—Cheese.

PASS AND REYNOLDS, Old Station, Brogo.—Cheese.

SOUTH COAST AND WEST CAMDEN CO-OPERATIVE CO., Office, Sussex Street, Sydney.—John Graham, Manager.—Cheese.

TOOTH, R. L., Island Factory, Kameruka, near Bega.—Cheese.

WOOD, P. H., Yarranung, near Bega.—Cheese. [*Vide* Foley Brothers.]

WREN, HENRY, Kameruka, Bega.—Cheese.

CLASS CXIX.—PRESERVED MEATS.

SYDNEY MEAT-PRESERVING COMPANY (Limited), Moore-street, Sydney.—Preserved meats and soups.

CLASS CXXIV.—CONFECTIONERY.

BIDDELL BROTHERS, 505-507, George Street, Sydney,—Confectionery.

CLASS CXXV.—JAMS AND JELLIES.

DYASON BROTHERS, SYDNEY JAM CO, Alexandria, near Sydney.—Assorted jams.

TAYLOR, SARAH M., Myall Villa, Railway Terrace, Burwood.—Jellies and jams preserved from fruits grown in the Colony.

CLASS CXXVI.—HONEY.

CRAVEN, T. W., 164, Sussex Street, Sydney.—Honey.

SMALLWOOD, D. J., Caddai Road, Pitt Town, Hawkesbury River.—Honey.

CLASS CXXVII.—ESSENCES AND EXTRACTS.

BARRETT AND CO., Buckingham Street, Sydney.—Extract of sarsaparilla.

HUME AND PEGRUM, Regent Street, Redfern, Sydney.—Waters of a medicinal character. Sarsaparilla, Lithia, Potass, Seltzer Water, Acidulous Water, Magnesia.

SMALLWOOD, D. J., Caddai Road, Pitt Town, Hawkesbury River.—Native sarsaparilla.

CLASS CXXVIII.—PICKLES, SAUCES, CHUTNEYS, AND CURRY POWDER.

BEST, M. S., AND CO., Maitland.—Tomato sauces.

HOGG, S. P., AND CO., 12, Wynyard Lane, Sydney.—Empress of India curry powder.

CLASS CXXIX.—ALE, BEER, AND PORTER.

MARKS AND MURPHY, 709, George Street, Sydney.—Lager beer.

TOOTH, R. L., Kent Brewery, George Street West, Sydney.—Ale.

CLASS CXXX.—CIDER, PERRY, &c.

BARRETT AND CO., Buckingham Street, Sydney.—Cider, ginger wine.

CLASS CXXXI.—WINES AND LIQUEURS.

BEATTIE, HUGH, Brooklyn, North Wagga Wagga.—Name of wine, Hermitage, 1881; Vineyard, Brooklyn, North Wagga Wagga, 7 acres. Extent of area planted with this grape, 1 acre; quantity exhibited, two gallons; quantity of this wine in stock, 600 gallons; kind of wine and date of planting, Hermitage, 1870; quantity of this wine produced annually, 300 gallons; cost of cultivation per acre, £5; price of this wine when newly made at vineyard, 5s. per gallon. Description—dark red, vintage, 1881; 8s. per gallon; no spirit added; character, full-bodied; nature of soil, &c., loamy, with red clay subsoil; south-east aspect, undulating; trained to stakes.

BEATTIE, HUGH, Brooklyn, North Wagga Wagga.—Name of Wine, Sherry; Vineyard, Brooklyn, 7 acres. Extent of area planted with this grape, 1 acre; quantity exhibited, two gallons; quantity of this wine in stock, 800 gallons; kind of vine and date of planting, Sherry, and similar description of grape; quantity of this wine produced annually, 400 gallons; cost of cultivation per acre, £5; price of this wine when newly made at vineyard, 4s. 6d. per gallon. Description—pale, vintage 1881; price, 8s. per gallon. no spirit added; character, liqueur; nature of soil, &c., loamy, with red clay subsoil; trained to stakes.

BOUFFIER BROTHERS, F. J., AND ANSOUL, Marcobrunner, Hunter River.—Name of wine, Pineau; vineyard, Marcobrunnner, about 50 acres. Area planted with this grape, 10 acres; quantity exhibited, six bottles; quantity in stock, 5,000 gallons of various vintages; kind of vine, Pineau, planted 1868; quantity of this wine produced last year, 4,000 gallons; cost of cultivation per acre, £6. Description—light amber colour, vintage 1881; price, 8s. per gallon; no spirit added; character, light dry wine, of a Hock character; about 23% proof spirit; soil sandy, clay bottom; trained to stakes.

BOUFFIER BROTHERS, F. J., AND ANSOUL, Marcobrunner, Hunter River.—Name of wine, Claret; vineyard, Marcobrunner. Area planted with this grape, 10 acres; quantity exhibited, six bottles; quantity in stock, 3,000 gallons; kind of vine, Verdot; planted 1872; quantity of this wine produced annually, 4,000 gallons; cost of cultivation, £6 per acre; price of wine newly made, 3s. per gallon. Description—light red colour, vintage, 1882; price 4s. per gallon; no spirit added; character, light dry claret; strength, 19% proof spirit; soil, gravel; trained to stakes.

BOUFFIER BROTHERS, F. J., AND ANSOUL, Marcobrunner, HUNTER RIVER.—Name of wine, Hermitage; vineyard, Marcobrunner. Area planted with this grape, 20 acres; quantity exhibited, six bottles; quantity in stock, 10,000 gallons; kind of vine, Hermitage; planted 1863; quantity of this wine produced last year, 6,000 gallons; cost of cultivation per acre, £6. Description—deep red colour, vintage, 1881; price, 6s. per gallon; no spirit added; character, full-bodied red wine; strength, about 23% proof spirit; soil sandy, clay bottom; trained to stakes.

BOUFFIER BROTHERS, F. J., AND ANSOUL, Marcobrunner, Hunter River.—Name of wine, Hock; vineyard, Marcobrunner. Area planted with this grape, 4 acres; quantity exhibited, six bottles; quantity in stock, 1,500 gallons; kind of vine, Pineau, planted 1868; quantity of this wine produced annually, 1,000 gallons; cost of cultivation per acre, £6. Description—light amber colour vintage, 1878; no spirit added; character, light dry wine: strength, 21% proof spirit; soil, sandy, clay bottom; trained to stakes.

BOUFFIER BROTHERS, F. J., & ANSOUL, Marcobrunner, Hunter River.—Name of wine, Reisling; vineyard, Marcobrunner. Extent of area planted with this grape, 3 acres; quantity exhibited, six bottles; quantity of this wine in stock, 3,000 gallons; kind of vine and date of planting, Reisling, 1869; quantity of this wine produced annually, 1,500 gallons; cost of cultivation per acre £6. Description—light pale, vintage 1881; 5s. per gallon; no spirit added; character, light dry; strength 24%; nature of soil, sandy, with clay bottom; how cultivated, trellised.

BOUFFIER BROTHERS, F. J., & ANSOUL, Marcobrunner Hunter River.—Name of wine, Australian Port; vineyard, Marcobrunner. Area planted with this grape 20 acres; quantity exhibited, six bottles; quantity in stock, 4,000 gallons; kind of vine, Red Hermitage, planted 1863; quantity of this wine produced annually, 3,000 gallons; cost of cultivation per acre, £6. Description—full-bodied red wine, vintage 1879; no spirit added; character, sweet; strength, about 26%; soil sandy; nature, with clay bottom; trained to stakes.

BOUFFIER BROTHERS, F. J., & ANSOUL, Marcobrunner, Hunter River.—Name of wine, Brown Muscat; vineyard, Marcobrunner. Area planted with this grape, 5 acres; quantity exhibited, six bottles; quantity in stock, 500 gallons; kind of vine, Muscatel; quantity of this wine produced annually, about 1,000 gallons; cost of cultivation per acre, about £6. Description—amber colour, vintage, 1880; no spirit added; character, full-bodied, fruity; strength, about 24%; soil, sandy, with clay bottom; trained to stakes.

BOUFFIER BROTHERS, F. J., & ANSOUL, Marcobrunner, Hunter River.—Name of wine, Madeira; vineyard, Marcobrunner. Area planted with this grape, 4½ acres; quantity exhibited, six bottles; quantity in stock, 1,000 gallons; kind of vine, Verdeilho, planted about eighteen years ago; quantity of this wine produced annually, 1,000 gallons; cost of cultivation per acre, £6. Description—amber colour, vintage 1879; no spirit added; character, light; about 21% of proof spirit; soil, sandy, clay bottom; trellised.

BOUFFIER BROTHERS F. J., & ANSOUL, Marcobrunner, Hunter River.—Name of wine, Hock; vineyard, Marcobrunner. Area planted with this grape, 4 acres; quantity exhibited, six bottles; quantity in stock, 2,000 gallons; kind of vine, Pineau, planted 1868; quantity of this wine produced annually, 1,000 gallons; cost of cultivation per acre, £6. Description—amber colour, vintages 1879, 1880, 1881; no spirit added; character, light; strength, 21% proof spirit; soil, sandy, clay bottom; trained to stakes.

BOUFFIER BROTHERS, F. J., & ANSOUL, Marcobrunner, Hunter River—Name of wine, Burgundy; vineyard, Marcobrunner. Area planted with this grape, 2 acres; quantity exhibited, six bottles; quantity in stock, 500 gallons; kind of vine, Malbec, planted 1877; quantity of this wine produced annually, 600 gallons; cost of cultivation per acre, £6. Description—dark red colour, vintage 1881; no spirit added; character, light dry; about 21% of proof spirit; soil sandy, clay bottom; trellised.

BRECHT, CARL, Rosemount, Denman—Name of wine, Port; vineyard, Rosemount. Area planted with this grape, 7 acres; quantity exhibited, six bottles; quantity in stock, 150 gallons; kind of vine, Hermitage, planted 1871; quantity of this wine produced annually, about 1,000 gallons; cost of cultivation per acre, about £8; price of wine newly made, about 2s. 6d. per gallon. Description—red, vintage 1880; price 10s. per gallon; 4% of spirit added; character, full-bodied blend of Hermitage, Lambruscat, and Muscatel; strength, about 30% proof spirit; soil, sandy loam to a depth of 15 to 20 feet; trained on trellis.

BRECHT, CARL, Rosemount, Denman.—Name of wine, Reisling; vineyard, Rosemount. Area planted with this grape, 5 acres; quantity exhibited, six bottles; quantity in stock, 100 gallons; kind of vine, Shepherd's Reisling, planted 1865; quantity of this wine produced annually, 2,000 gallons; cost of cultivation per acre, about £8; price of wine newly made, 2s. 6d. per gallon. Description—straw colour, vintage, 1877; no spirit added; price, 10s. per gallon; character, full bodied, dry; strength, about 28%; soil, sandy loam; trained on trellis. Grapes were very ripe when made into wine, the must being 30% by Keen's sacc.

BRECHT, CARL, Rosemount, Denman.—Name of wine, Burgundy; vineyard, Rosemount. Area planted with the grape, 2 acres; quantity exhibited, six bottles; quantity in stock, 300 gallons; kind of vine, Muller's Burgundy, planted 1870; quantity of this wine produced annually, about 800 gallons; cost of cultivation per acre, about £8; price of wine newly made, 1s. 6d. per gallon. Description—red, vintage 1881; price 8s. 6d. per gallon; no spirit added; character, light dry; strength, about 23%; soil sandy loam; trained on trellis.

BRECHT, CARL, Rosemount, Denman.—Name of wine, Claret; vineyard, Rosemount. Area planted with this grape, 3 acres; quantity exhibited, six bottles; quantity in stock, 1,000 gallons; kind of vine Hermitage,

planted about 1875; quantity of this wine produced annually about 1,000 gallons; cost of cultivation per acre, about £8 price of wine newly made, about 1s. 6d. per gallon. Description—red, vintage 1882; no spirit added; character, light and very dry; strength, about 22%; soil, sandy loam; trained on trellis.

BRECHT, CARL, Rosemount, Denman.—Name of wine, Muscatel; vineyard Rosemount. Area planted with this gape, 3 acres; quantity exhibited, six bottles; quantity in stock, 200 gallons; kind of vine, Muscatel, planted 1870; quantity of this wine produced annually, about 1,500 gallons; cost of cultivation per acre, about £8; price of wine newly made, 2s. 6d. per gallon. Description—white, vintage 1879; price 10s. per gallon; no spirit added; character, full-bodied, sweet; strength, about 26%; soil sandy loam; trained on trellis.

BRECHT, CARL, Rosemount, Denman.—Name of wine, Shiraz; vineyard, Rosemount. Area planted with this grape, 4 acres; quantity exhibited, six bottles; quantity in stock, 500 gallons; kind of vine, Shiraz, planted 1876; quantity of this wine produced annually, about 1,500 gallons; cost of cultivation per acre, about £8; price of wine newly made, about 1s. 6d per gallon. Description—straw colour, vintage, 1881; price, 8s. 6d. per gallen; no spirit added; character, full-bodied, dry; strength, about 26%; soil, sandy loam; trained on trellis.

BRECHT, CARL, Rosemount, Denman.—Name of wine, Madeira; vineyard, Rosemount. Area planted with this grape, 4 acres; quantity exhibited, six bottles; quantity in stock, 2,000 gallons; kind of vine, Madeira or Verdeilho; quantity of this wine produced annually, about 2,000 gallons; cost of cultivation per acre £8; price of wine newly made, about 2s. per gallon. Description—white, vintage 1882; price per gallon, 8s. 6d.; no spirit added; character, light, dry; strength, about 23%; soil, sandy loam; trained on trellis.

BRECHT, CARL, Rosemount, Denman.—Name of wine, Madeira Sweet; vineyard, Rosemount. Area planted with this grape, 5 acres; quantity exhibited, six bottles; quantity in stock, 500 gallons; kind of vine, Madeira, planted 1875; quantity of this wine produced annually, about 1,000 gallons; cost of cultivation per acre, about £8; price of wine newly made, about 3s. 6d. per gallon. Description—red, vintage, 1883; about 5 %; character, full-bodied, sweet; strength, about 29%; soil, sandy loam; trained on trellis.

BRECHT, CARL, Rosemount, Denman.—Name of wine, Hermitage; vineyard, Rosemount. Area planted with this grape, 7 acres; quantity exhibited, six bottles; quantity in stock, 2,000 gallons; kind of vine, Hermitage; quantity of this wine produced annually, about 3,000 gallons; cost of cultivation per acre, about £8; price of wine newly made, about 2s. per gallon. Description—red, vintage, 1880; price, 10s; no spirit added; character, full-bodied, dry; strength, about 29%; soil, sandy loam; trained on trellis. This wine, when made, contained 34 per cent. of sugar, by Keen's sacc.

BRECHT, CARL, Rosemount, Denman.—Name of wine, Hermitage; vineyard, Rosemount. Area planted with this grape, 33 acres; quantity exhibited, six bottles; quantity in stock, 1,200 gallons; kind of vine, Hermitage, planted, 1873; quantity of this wine produced annually, about 2,000 gallons; cost of cultivation per acre, about £8; price of wine newly made, about 2s. per gallon. Description—red, vintage, 1882; no spirit added; character, full-bodied; strength, about 25%; soil, sandy loam; trained on trellis.

BRECHT, CARL, Rosemount, Denman.—Name of wine, Pineau; vineyard, Rosemount. Area planted with this grape, 1 acre; quantity exhibited, six bottles; quantity in stock, 100 gallons; kind of vine, Pineau, planted 1876; quantity of this wine produced annually, about 300 gallons; cost of cultivation per acre, about £8; price of wine newly made, about 1s. 6d. per gallon. Description—white, vintage, 1881; no spirit added; character, full-bodied, dry; strength, about 25%; soil, sandy loam; trained on trellis.

BRECHT, CARL, Rosemount, Denman.—Name of wine, Pineau; vineyard, Rosemount. Area planted with this grape, 1 acre; quantity exhibited, six bottles; quantity in stock, 400 gallons; kind of vine, Pineau, planted, 1873; quantity of this wine produced annually, about 400 gallons; cost of cultivation per acre, about £8; price of wine newly made, about 1s. 3d. per gallon. Description—white, vintage, 1882; 7s. 6d. per gallon; no spirit added; character, light, dry; strength, about 23%; soil, sandy loam; trained on trellis.

BUCHOLTZ, FREDERICK A., Fredericksburgh, Mudgee.—Name of wine, Hermitage; vineyard, Fredericksburgh. Area planted with this grape, 1½ acre; quantity exhibited, six bottles; quantity in stock, 800 gallons; kind of vine, Black Hermitage, planted, 1870; quantity of this wine produced annually, from 200 to 500 gallons; price of wine newly made, about 5s. per gallon. Description—full-bodied, dark red, vintage, 1880; no spirit added; 18s. per dozen; character, dry; soil, red, loam; trained to stakes.

BUCHOLTZ, FREDERICK A., Fredericksburgh, Mudgee.—Name of wine, Hermitage; vineyard, Fredericksburgh. Area planted with this grape, 1½ acres; quantity exhibited, six bottles; quantity in stock, 800 gallons; kind of vine, Black Hermitage, planted, 1870; quantity of this wine produced annually, from 200 to 500 gallons; price of wine newly made, about 5s. per gallon. Description—dark red, vintage, 1883; no spirit added; character, full-bodied, dry; soil red loam, slate bottom; trained to stakes.

BUCHOLTZ, FREDERICK A., Fredericksburgh, Mudgee.—Name of wine, Muscat; vineyard, Fredericksburgh. Area planted with this grape, 1½ acres; quantity exhibited, six bottles; quantity in stock, 100 gallons; kind of vine, red Muscat, planted, 1867; quantity of this wine produced annually, 50 to 150 gallons, according to season. Description—light-coloured red, vintage, 1882; no spirit added; character, full-bodied, sweet; price, 30s. per dozen; soil, stony surface, slaty soil on a slate bottom; easterly aspect; trained to stakes.

BUCHOLTZ, FREDERICK A., Fredericksburgh, Mudgee.—Name of wine, Madeira; vineyard, Fredericksburgh, 8 acres in full bearing, 1 acre young vines. Area planted with this grape, 1½ acre; quantity exhibited, six bottles; quantity in stock, 700 gallons; kind of vine, Verdeilho, planted, 1870; quantity of this wine produced annually, from 150 to 500 gallons. Description—white, vintage, 1875; no spirit added; character, full-bodied, sweet, light, dry; soil, loam; trained to stakes.

This exhibit is stated by the exhibitor to be the natural produce of the Verdeilho grape, nothing being added in any way. Jurors will notice that the quantity made varies very much. This is owing to the late spring frosts and dry seasons; otherwise, the climate and soil are well suited for vine-growing in the Mudgee district.

DEINAN, THOMAS, Branxton, Hunter River.—Name of wine, Madeira; vineyard Branxton, Black Creek; 16 acres. Extent of area planted with this grape, 3 acres; quantity exhibited, one dozen bottles; quantity of this wine in stock, 1,800 gallons; kind of vine and date of planting, Madeira, 1865; quantity of this wine produced annually, 1,800 gallons; cost of cultivation per acre, £7; price of this wine when newly made at Vineyard, 2s. 6d. per gallon. Description—sweet, strong wine, sherry colour, vintage 1883; 3s. 6d. per gallon; no spirit added; character, fruity; nature of soil, loam; trellised.

FALLON, JAMES T., 91, Pitt Street, Sydney.—Name of wine, Reisling; vineyard, Murray Valley Vineyard, near Albury. Quantity exhibited, six bottles; kind of vine, Reisling; cost of cultivation per acre, £10 to £12. Description—white; no spirit added; character, full-bodied; nature of soil, &c., chocolate; calcareous volcanic soil; limestone and cement sub-soil, at a depth of 2 feet; trained to stakes.

The Murray Valley Vineyard, 640 acres in extent, is situated at Albury, on a sloping ridge 1,000 feet above sea-level. The different varieties of grape cover an area of 200 acres. The names of the wines produced are—Reisling, Verdeilho,

Tokay, Aucarot, Muscat (white varieties), Shiraz, Carbinet, Burgundy, Hermitage, and Malbec (red varieties). The quantity of wine at present in stock is 350,000 gallons, and the quantity produced annually by exhibitor is from 30,000 to 45,000 gallons. The exhibitor states that he sells no wine under from four to ten years old; and that no spirit is added, their natural spirit being considered amply sufficient. The general character of the wines is full-bodied, the strength being from 23 to 28 degrees of spirit proof, according to Sykes's hydrometer. The wines are remarkable for their high degree of alcoholic strength.

FALLON, JAMES T., 91., Pitt Street, Sydney. Name of wine, Tokay; vineyard, Murray Valley, near Albury. Quantity exhibited, six bottles; cost of cultivation per acre, £10 to £12. Description—white; no spirit added; character, full-bodied; nature of soil, chocolate: calcareous, volcanic soil; limestone and cement sub-soil; trained to stakes.

FALLON, JAMES T., 91, Pitt Street, Sydney.—Name of wine, Verdeilho; vineyard, Murray Valley, near Albury. Quantity exhibited, six bottles; cost of cultivation per acre, £10 to £12. Description—white; no spirit added; character, full-bodied; nature of soil, chocolate: calcareous volcanic soil; limestone and cement subsoil; trained to stakes.

FALLON, JAMES T., 91, Pitt Street, Sydney.—Name of wine, Aucarot; vineyard, Murray Valley, near Albury. Quantity exhibited, six bottles; cost of cultivation per acre, £10 to £12. Description—white; no spirit added; character, full-bodied; nature of soil, chocolate: calcareous, volcanic soil; limestone and cement sub-soil; trained to stakes.

FALLON, JAMES T., 91, Pitt Street, Sydney.—Name of wine, Burgundy; vineyard, Murray Valley, near Albury. Quantity exhibited, six bottles; cost of cultivation per acre, £10 to £12. Description—red; no spirit added; character, full-bodied; nature of soil, &c., chocolate: calcareous, volcanic soil; limestone and cement sub-soil; trained to stakes.

FALLON, JAMES T., 91, Pitt Street, Sydney.—Name of wine, Carbinet; vineyard, Murray Valley, near Albury. Quantity exhibited, six bottles; cost of cultivation per acre, £10 to £12. Description—red; no spirit added; character, full-bodied; nature of soil, &c., chocolate; calcareous, volcanic soil; limestone and cement sub-soil; trained to stakes.

FALLON, JAMES T., 91, Pitt Street, Sydney.—Name of wine, Hermitage; vineyard, Murray Valley, near Albury. Quantity exhibited, six bottles; cost of cultivation per acre, £10 to £12. Description—red; no spirit added; character, full-bodied: nature of soil, &c., chocolate: calcareous, volcanic; limestone and cement sub-soil; trained to stakes.

FALLON, JAMES T., 91, Pitt Street, Sydney. Name of wine, Shiraz; vineyard, Murray Valley, near Albury. Quantity exhibited, six bottles; cost of cultivation per acre, £10 to £12. Description—red; no spirit added; character, full-bodied; nature of soil, chocolate: calcareous, volcanic; limestone and cement sub-soil; trained to stakes.

FLEMING, GEORGE T., Hauteville, Albury. Name of wine, Reisling; vineyard, Hauteville. Area planted with this grape, 4 acres; quantity exhibited, six bottles; quantity in stock, 500 gallons; name of vine, Reisling, planted 1865; quantity of this wine produced annually, 800 gallons; cost of cultivation, £7 per acre. Description—white, vintage 1878; no spirit added; character, full-bodied; soil, quartz and felspar; trained to stakes; vineyard on a hill facing west and north.

FLEMING, GEORGE T., Hauteville, Albury. Name of wine, Shiraz; vineyard, Hauteville. Area planted with this grape, 2 acres; quantity exhibited, six bottles; quantity in stock, 150 gallons; kind of vine, Shiraz, Noir; quantity of this wine produced annually, 400 gallons; cost of cultivation per acre, £8. Description—red, full-bodied, vintage 1878; no spirit added; character, full-bodied; soil, quartz and felspar; trained to stakes.

FLEMING, GEORGE T., Hauteville, Albury. Name of wine, Verdheilho; vineyard, Hauteville. Area planted with this grape, 1 acre; quantity exhibited, six bottles; quantity in stock, 150 gallons; kind of vine, Verdeilho, planted 1865; quantity of this wine produced annually, 120

gallons; cost of cultivation, £8 per acre. Description—white, vintage 1878; no spirit added; character, medium; soil, quartz and felspar; trained to stakes.

FLEMING, GEORGE T., Hauteville, Albury. Name of wine, Muscat; vineyard, Hauteville. Area planted with this grape, 1½ acre; quantity exhibited, six bottles; kind of vine, Brown Muscat; quantity of this wine produced annually, 250 gallons; cost of cultivation per acre, £8. Description—red, vintage 1880; no spirit added; character, full-bodied; soil, quartz and felspar; trained to stakes.

FRANCIS, GEORGE, Douglas Vale, Port Macquarie. Name of wine, Portobella; vineyard, Douglas Vale. Area planted with this grape, 6 acres; quantity exhibited, twelve bottles; quantity in stock, 450 gallons; kind of vine, Isabella, planted 1863; quantity of this wine produced annually, from 2,000 to 3,000 gallons; cost of cultivation per acre, £100, that is clearing and planting till the vines bear. Description—red wine, vintage 1881; 7s. per gallon in bulk; character, good body; no spirit added; chocolate-coloured soil, northerly aspect, gentle slope, 100 feet above sea-level; trained on trellis.

FRÈRE, Léonce, St. Hilaire Vineyard, Albury.—Name of wine, Champagne, Dry; vineyard, St. Hilaire, near Albury, 50 acres. Extent of area planted with this grape, 35 acres; quantity exhibited, one case, twelve bottles; quantity of this wine in stock, 800 dozen; kind of vine and date of planting, White Hermitage, 1878; cost of cultivation per acre, £7. Description—sparkling, light colour, vintage 1881; no spirit added; character, light and sweet; strength, 21% proof spirit; nature of soil, &c., chocolate, westerly slope; trained to stakes.

FRÈRE, Léonce, St. Hilaire Vineyard, Albury.—Name of wine, Champagne, Sweet; vineyard, St. Hilaire, near Albury, 50 acres. Extent of area planted with this grape, 35 acres; quantity exhibited, one case of twelve bottles; quantity of this wine in stock, 800 dozen; kind of vine and date of planting, White Hermitage, 1878; cost of cultivation per acre, £7. Description—sparkling, light colour; no spirit added; character, light and sweet; strength, 21% proof spirit; nature of soil, &c., chocolate, western slope; trained to stakes.

GORUS, JOHN T., Eshcol Park, Minto, near Campbelltown.—Name of wine, Muscat, Brown, 1880; vineyard, Eshcol, 20 acres. Quantity exhibited, eight bottles; quantity in stock, 11,000 gallons altogether; quantity produced annually, about 4,000 gallons; price of the wine, when newly made, at vineyard, 1s. 6d.; first time exhibited; natural strength; character, 24%; clay sub-soil; stakes and trellis.

GORUS, JOHN T., Eshcol Park, Minto, near Campbelltown.—Name of wine, Muscat, White, 1879; vineyard, Eshcol, 20 acres. Quantity exhibited, eight bottles; quantity in stock, about 11,000 gallons altogether; quantity, annually produced, about 4,000 gallons; price of wine, when newly made, at vineyard, 1s. 6d.; first time exhibited; natural strength of wine, character, 24%; clay sub-soil; stakes and trellis.

GORUS, JOHN T., Eshcol Park, Minto, near Campbelltown.—Name of wine, Madeira, 1879; vineyard, Eshcol, 20 acres. Quantity exhibited, eight bottles; quantity in stock, altogether 11,000 gallons; quantity produced annually, about 4,000 gallons; price, when newly made, at vineyard, 1s. 6d.; natural strength; character, 24%; soil, clay sub-soil; stakes and trellis.

GORUS, JOHN T., Eshcol Park, Minto, near Campbelltown.—Name of wine, Sherry, 1881; vineyard, Eshcol. Quantity exhibited, eight bottles; quantity in stock, 11,000 gallons altogether; first time exhibited. Description—pale; no spirit added; character, 24%; clay sub-soil; trained to stakes with wire trellis.

GORUS, JOHN T., Eshcol Park, Minto, near Campbelltown.—Name of wine, Hermitage, Red, 1881-82; vineyard, Eshcol. Quantity exhibited, eight bottles; quantity in stock, 11,000 gallons altogether; kind of vine,

Hermitage; quantity of this wine produced annually, about 4,000 gallons. Description—Hermitage, Red, vintage 1882; no spirit added; 24%; clay sub-soil; trained to stakes with wire trellis.

GORUS, JOHN T., Eshcol Park, Minto, near Campbelltown.—Name of wine, Port; vineyard, Eshcol Park, 20 acres; quantity exhibited, eight bottles; description, full bodied, vintage 1881.

GORUS, JOHN T., Eshcol Park, Minto, near Campbelltown.—Name of wine, Madeira; vineyard, Eshcol Park; quantity exhibited, eight bottles; description, full-bodied, vintage 1879.

GORUS, JOHN T., Eshcol Park, Minto, near Campbelltown.—Name of wine, Muscat; vineyard, Eshcol Park; quantity exhibited, eight bottles; description, full-bodied, vintage 1879.

GREEN, WALTER, C. Johannesburg, Cessnock.—Name of wine, Pineau White; vineyard, Johannesburg, 17 acres; area planted with this grape, 7 acres; quantity exhibited, six bottles; quantity in stock, 1 hogshead; kind of vine, Pineau, planted 1879; cost of cultivation, £9; description, Pineau White, vintage 1882; no spirits added; character, light; strength about 24%; soil, limestone formation; trained to stakes, trellised.

GREEN, WALTER C., Johannesburg, Cessnock.—Name of wine, Shiraz White, 1881; vineyard, Johannesburg, 17 acres; quantity exhibited, six bottles; quantity in stock, 1 hogshead; kind of vine, Shiraz, planted 1879; first crop; cost of cultivation per acre, £9. Description—Light white, vintage 1882; no spirit added; character, light; soil, limestone; trained to stakes.

HARBOTTLE, BIDDULPH, AND ALSOP, Ettamogah, Albury.—Name of wines, Ettamogah Red; vineyard, Ettamogah. Extent of vineyard, 25 acres; extent of area planted with this grape, 11 acres; the total quantity in stock, 3,000 gallons; quantity of wine produced annually, 3,500 gallons; quantity exhibited six bottles; kind of vines, Cabinet and Shiraz Pineau; cost of cultivation per acre, £4 10s. Description—Red, vintage 1878; no spirit added; character, full-bodied; soil, decomposed granite; trained to stakes.

HARBOTTLE, BIDDULPH, AND ALSOP, Ettamogah, Albury.—Names of wines, Ettamogah, White; vineyard, Ettamogah. Quantity exhibited, six bottles; cost of cultivation, £4 10s. per acre. Description—Verdeilho and White Shiraz, vintage 1878; character, full-bodied; soil, decomposed granite; trained to stakes.

HARBOTTLE, BIDDULPH, AND ALSOP, Ettamogah, Albury.—Kind of wines, Ettamogah, White, 1877; vineyard, Ettamogah. Quantity exhibited, six bottles; kind of vines, Verdeilho and White Shiraz; cost of cultivation per acre, £6 10s.; quantity in stock, 1,400 gallons; quantity produced annually, 1,800 gallons. Description—Verdeilho and White Shiraz; vintage, 1877; character, full-bodied; strength, about 21%; soil, decomposed granite, potash felspar; trained to stakes.

HARBOTTLE, BIDDULPH, & ALSOP, Ettamogah, Albury.—Kind of wine, Reisling; vineyard, Ettamogah. Quantity exhibited, six bottles; kind of vine, Reisling; quantity in stock, 800 gallons; cost of cultivation £4 10s. per acre. Description—Reisling; vintage 1877; character, light; soil, decomposed granite and white loam; trained to stakes.

HARBOTTLE, BIDDULPH, & ALSOP, Ettamogah, Albury.—Kind of wine, Aucarot, 1881. Quantity exhibited, six bottles; cost of cultivation, £4 10s. per acre. Description—character, full-bodied; vintage 1881; nature of soil, decomposed granite; trained to stakes.

HARBOTTLE, BIDDULPH, AND ALSOP, Ettamogah, Albury.—Kinds of wines, red, 1880; quantity exhibited, six bottles; cost of cultivation per acre, £4 10s. Description—character, full-bodied; vintage 1880; nature of soil, decomposed granite; trained to stakes.

HARBOTTLE, BIDDULPH, AND ALSOP, Ettamogah, Albury.—Kind of wine, Muscat, 1881; vineyard, Ettamogah. Quantity exhibited, six bottles; kind of

vine, Brown Muscat; cost of cultivation per acre, £4 10*s*. Description—Muscat-character, liqueur; vintage 1881; nature of soil, decomposed granite and potash felspar; trained to stakes.

HARBOTTLE, BIDDULPH, AND ALSOP, Ettamogah, Albury.—Kind of wine, Muscat, 1882; vineyard, Ettamogah. Quantity of wine exhibited, six bottles; kind of wine, Brown Muscat; cost of cultivation, £4 10*s*. per acre. Description—Brown Muscat; character, liqueur; vintage, 1882; nature of soil, decomposed granite and potash felspar; trained to stakes.

JACK, DAVID, Fernmount, Inverell.—Name of wine, Hermitage; vineyard, Fernmount. Extent of vineyard, 7 acres; quantity exhibited, eight bottles; wine in stock, 200 gallons; vine, Hermitage; planted, 1874; area planted with this grape, 2½ acres; total quantity produced annually, 2,000 gallons. Description—Hermitage, red; vintage, 1882; price of wine, 7*s*. per gallon; cost of cultivation per acre, £10; character, full-bodied; soil, red; trained to stakes and wire.

JACK, DAVID, Fernmount, Inverell.—Name of wine, Verdeilho; vineyard, Fernmount. Extent of vineyard, 7 acres; quantity exhibited, eight bottles; quantity in stock, 200 gallons; kind of vine, Verdeilho; planted 1874; cost of cultivation per acre, £10. Description—vintage, 1882; no spirit added; character, full-bodied; soil, red; trained to stakes and wire.

JACK, DAVID, Fernmount, Inverell.—Name of wine, Shiraz; vineyard, Fernmount. Extent of vineyard, 7 acres; quantity exhibited, eight bottles; quantity in stock, 200 gallons; kind of vine, Shiraz; planted 1874; cost of cultivation, £10 per acre. Description—white, vintage 1882; no spirit added; character, full-bodied; soil, red; trained to stakes and wire.

KELMAN, JAMES, Kirkton Vineyard, Branxton, Hunter River.—Name of wine, Kirkton (very light pale, blend of different varieties, 1873); vineyard, Kirkton, near the Hunter River, 32 acres, established in 1830. Extent of area planted with this grape, 2 acres; quantity exhibited, six bottles; blended with other wines; kind of vine and date of planting, Blanquette, 1870; quantity produced annually, 1,500 gallons; cost of cultivation per acre, £6; price 6*s*. 6*d*. per gallon. Prizes obtained at previous exhibitions—Awarded gold medal, Bordeaux, 1882; silver medal, Paris, 1878; grand champion prize, Victoria, 1877; grand challenge prize, Queensland, 1878; thirteen first awards, Sydney International Exhibition, 1879; also numerous other prizes. No spirit added; character, light dry; strength, about 17 per cent.; nature of soil, &c., reddish sand, clay subsoil; aspect, S.E., about 200 feet elevation; trained to wires, vines 6 feet apart each way.

KELMAN, JAMES, Kirkton Vineyard, Branxton, Hunter River.—Name of wine, Kirkton Hock (light pale, 1879); vineyard, Kirkton, near Hunter River, 32 acres. Extent of area planted with this grape, 2 acres; quantity exhibited, 1 dozen; quantity of wine in stock, 3,000 gallons, of different vintages; kind of vine, Verdeilho Reisling, Blanquette; cost of cultivation per acre, £6; price 6*s*. 6*d*. per gallon; no spirit added; character, light, dry; strength, about 18 per cent.; nature of soil, &c., reddish sand, clay subsoil; aspect, S.E., about 200 feet elevation; trained to wires.

KELMAN, JAMES, Kirkton Vineyard, Branxton, Hunter River.—Name of wine, Kirkton Hock (very light pale, blend, 1879) in bulk; vineyard, Kirkton, near the Hunter River, Branxton; 32 acres; quantity exhibited, 1 quarter-cask of 28 gallons; quantity in stock, 3,000 gallons, of different vintages; kind of vine, Verdeilho, Reisling, Blanquette; cost of cultivation per acre, £6; price, 6*s*. 6*d*. per gallon; no spirit added; character, light, dry; strength, about 18 per cent.; nature of soil, &c., reddish sand, clay subsoil; aspect, S.E., 200 feet elevation; trained to wires.

KELMAN, JAMES, Kirkton vineyard, Branxton, Hunter River.—Name of wine, Kirkton White, 1878; vineyard Kirkton, near the Hunter River, 32 acres. Extent of area planted with this grape, 4 acres; quantity exhibited, 1 dozen bottles; quantity of this wine in stock, 4,000 gallons of different vintages; kind of vine and date of planting, White Hermitage, planted in 1840 and 1872; quantity of this wine produced annually, about

2,500 gallons; cost of cultivation per acre, £6. Description, white wine, rather light straw colour; no spirit added; character, medium strength, dry; strength, 19 per cent.; nature of soil, &c., reddish sand, 2 to 10 feet deep, clay sub-soil; S.E. aspect; trained to wires; vines 6 feet apart each way.

KELMAN, JAMES, Kirkton Vineyard, Branxton, Hunter River.—Name of wine, Kirkton White, 1878 (in bulk); vineyard, Kirkton, near the Hunter River, 32 acres. Extent of area planted with this grape, 4 acres; quantity exhibited 1-qr.-cask 28 gallons; quantity of this wine in stock, 4,000 gallons, of different vintages; kind of vine and date of planting, White Hermitage, planted in 1840 and 1872; quantity of this wine produced annually, about 2,500 gallons; cost of cultivation per acre, £6. Description—White, rather light straw colour; no spirit added; character, medium strength, dry; strength, 19 per cent.; nature of soil, &c., reddish sand, 2 to 10 feet deep, clay sub-soil, S.E. aspect; trained to wires; vines 6 feet apart each way.

KELMAN, JAMES, Kirkton Vineyard, Branxton, Hunter River.—Name of wine, Kirkton Madeira, golden, 1872; vineyard, Kirkton, near the Hunter River. Extent of area planted with this grape, about 6 acres; quantity exhibited ½ dozen bottles; quantity of this wine in stock, about 9,000 gallons, of different vintages; kind of vine and date of planting, Verdeilho, planted 1869 to 1875; quantity of this wine produced annually, about 3,500 gallons; cost of cultivation per acre, £6. Description—Dry, 1872; 7s. per gallon; no spirit added; strength, medium, about 20 per cent.; nature of soil, &c., reddish, sand, clay sub-soil, aspect S.E.; trained to wires; vines 6 feet apart each way.

KELMAN, JAMES, Kirkton Vineyard, Branxton, Hunter River.—Name of wine Kirkton Madeira, golden, 1879; vineyard, Kirkton, near the Hunter River. Extent of area planted with this grape about 6 acres; quantity exhibited, one dozen bottles; quantity of this wine in stock, about 9,000 gallons of different vintages; kind of vine and date of planting, Verdeilho, planted 1869 to 1875; quantity of this wine produced annually, about 3,500 gallons; cost of cultivation per acre £6. Description—Dry, 1872; 7s. per gallon; no spirit added; strength, medium, about 20 per cent.; nature of soil, reddish sand, clay sub-soil, S. E. aspect; trained to wires; vines 6 feet apart each way.

KELMAN, JAMES, Kirkton Vineyard, Branxton, Hunter River.—Name of wine, Kirkton Madeira, golden, 1879; vineyard, Kirkton; near the Hunter River. Extent of area planted with this grape, about 6 acres; quantity exhibited one qr.-cask, 28 gallons; quantity of this wine in stock, about 9,000 gallons of different vintages; kind of vine and date of planting, Verdeilho, 1869 to 1875; quantity of this wine produced annually, about 3,500 gallons; cost of cultivation per acre, £6. Description—Dry; 1872; 7s. per gallon, no spirit added; strength, medium, about 20% ; nature of soil, &c., reddish sand, clay sub-soil, S.E. aspect; trained to wires.

KELMAN, JAMES, Kirkton Vineyard, Branxton, Hunter River.—Name of wine, Kirkton Yellow, 1876; vineyard, Kirkton, near the Hunter River. Extent of area planted with this grape, about 5 acres; quantity exhibited, one dozen; quantity of this wine in stock, 8,000 gallons of different vintages; kind of vine and date of planting, Reisling 1870 to 1873; quantity of this wine produced annually about 3,000 gallons; cost of cultivation per acre, £6. Description—Light, dry, bright yellow; three years old, 1876; 7s. per gallon; no spirit added; strength, about 18%; nature of soil, &c., reddish sand, clay sub-soil, S.E. aspect, about 200 feet elevation; trained to wires vines 6 feet apart.

KELMAN, JAMES, Kirkton Vineyard Branxton, Hunter River.—Name of wine, Kirkton Yellow, 1878; vineyard, Kirkton, near the Hunter River. Extent of area planted with this grape, about 5 acres; quantity exhibited, one dozen bottles; quantity of this wine in stock, 8,000 gallons of different vintages; kind of vine and date of planting, Reisling 1870 and 1878

quantity of this wine produced annnually, about 3 000 gallons; cost of cultivation per acre £6. Description—light, dry, bright yellow; 3 years old, 1876; 7s. per gallon; no spirit added; strength, about 18%; nature of soil, &c., reddish sand, clay sub-soil, S.E. aspect, about 200 feet elevation trained to wires; vines 6 feet apart.

KELMAN, JAMES, Vnineyard, Branxton, Hunter River.—Name of wine Kirkton yellow, 1878 (in bulk); vineyard, Kirkton, near the Hunter River. Extent of area planted with this grape, about 5 acres; quantity exhibited, one qr.-cask of 28 gallons; quantity of this wine in stock, 3,000 gallons, of different vintages; kind of vine and date of planting, Reisling, planted in 1870 and 1873; quantity of this wine produced annually, about 3,000 gallons; cost of cultivation per acre, £6. Description—light, dry, bright yellow colour, vintage 1878; 7s. per gallon; no spirit added; strength, about 18%; nature of soil, &c., reddish sand, clay sub-soil, S.E. aspect, about 200 feet elevation; trained to wires; vines 6 feet apart each way.

KELMAN, JAMES, Kirkton Vineyard, Branxton, Hunter River.—Name of wine, Kirkton Claret; vineyard, Kirkton, near the Hunter River, 32 acres. Extent of area planted with this grape, 10 acres; quantity exhibited, four dozen bottles; quantity of wine in stock, 15,000 gallons of different vintages; kind of vine and date of planting, Red Hermitage, 1840 and 1864; quantity of this wine produced annually, 5,000 gallons; cost of cultivation per acre, £6. Description—Dark red colour, vintages 1877—1878; 6s. per gallon; no spirit added; character, light; strength about 18%; nature of soil, &c., reddish sand, clay sub-soil, S.E. aspect, elevation 200 feet; trained to stakes and also to wires; vines 6 feet apart each way.

KELMAN, JAMES KIRKTON Vineyard, Branxton, Hunter River.—Name of wine, Kirkton Hermitage (in bulk); vineyard Kirkton, near the Hunter River, 32 acres. Extent of area planted with this grape, 10 acres; quantity exhibited, 1-qr.-cask, 28 gallons; quantity of this wine in stock, 15,000 gallons of different vintages; kind of vine and date of planting, Red Hermitage, 1840 and 1864; quantity of this wine produced annually, 5,000 gallons; cost of cultivation per acre, £6. Description—dark red, vintages, 1876-81; price 7s. per gallon; no spirit added; character, full-bodied; strength, 21 to 23 per cent.; nature of soil, &c., reddish sand, clay sub-soil, S.E. aspect, 200 feet elevation; trained to stakes and also to wires; vines 6 feet apart each way.

LINDEMAN, H. J., Cawarra, Paterson River.—Name of wine, Hermitage; vineyard, Cawarra. Quantity exhibited, six bottles. Description—red; no spirit added; character, medium, light; how cultivated, trellised. [The extent of the Cawarra Vineyard is about 80 acres.]

LINDEMAN, H. J., Cawarra, Paterson River.—Name of wine, Burgundy; vineyard, Cawarra. Quantity exhibited, 1 gallon; quantity in stock, 65,000 gallons, assorted; cost of cultivation per acre, about £7. Description—red, vintage 1875; 60s. per dozen; no spirit added; character, full-bodied; how cultivated, trellised.

LINDEMAN, H. J., Cawarra, Paterson River.—Name of wine, Claret; vineyard, Cawarra. Quantity exhibited, one gallon; quantity in stock, 65,000 gallons, assorted wines; cost of cultivation per acre, about £7. Description—1876 vintage, red; 26s. per dozen; no spirit added; character, light; how trained, trellised.

LINDEMAN, H. J., Cawarra, Paterson River.—Name of wine, Hock; vineyard, Cawarra. Quantity exhibited, one gallon; quantity in stock, 30,000 gallons; cost of cultivation per acre, £7. Description—white, vintage, 1876; 28s. per dozen; no spirit added; character, light; cultivated, trellised.

MATHER, THOMAS, Roslyn, Inverell.—Kind of wine, Shiraz; vineyard, Roslyn; Area planted with this grape, 2 acres; quantity exhibited, eight bottles. kind of wine, Shiraz; planted 1875; quantity of this wine produced annually, 1,000 gallons; cost of cultivation per acre, £10. Description—dry, white, vintage 1880; character, full-bodied; strength 25%; no spirit added; soil, decomposed trap; trained, staked with three wires.

MATHER, THOMAS, Roslyn, Inverell.—Kind of wine, Madeira; vineyard, Roslyn. Area planted with this vine, 2 acres; quantity exhibited, eight bottles; quantity of this wine produced annually, 600 gallons; kind of vine, Madeira or Verdeilho; cost of cultivation per acre, £10. Description—dry, very fine quality; colour white; character, full-bodied, vintage 1881; strength, 28%; no spirit added; nature of soil, red; trained to stakes and wires.

MATHER, THOMAS, Roslyn, Inverell.—Name of wine, Malbec; vineyard, Roslyn. Quantity exhibited, eight bottles; cost of cultivation per acre, £10. Description—red, vintage 1880; character, full-bodied; strength, 27%; no spirit added; soil red; trained to stakes and wires.

MUNRO, ALEXANDER, Bebeah, Singleton.—Name of wine, Claret, 1878; vineyard, Bebeah, 64 acres. Quantity exhibited, six bottles; quantity in stock, 300 gallons; kind of vine, Claret, different grapes blended; cost of cultivation per acre, £ 7 10s. Description—Claret red, 1878; 5s. per gallon; no spirit added; character, light; soil, rich, dark loam; trained to stakes with wire trellis.

MUNRO, ALEXANDER, Bebeah, Singleton.—Name of wine, Hermitage, 1878; vineyard, Bebeah. Quantity exhibited, six bottles; quantity in stock, 300 gallons; kind of vine, Hermitage; quantity of this wine produced annually, 4,000 gallons; cost of cultivation per acre, £7 10s. Description—Hermitage red, vintage 1878; 5s. per gallon; no spirit added; character, light; soil, rich dark loam; trained to stakes with wire trellis.

MUNRO, ALEXANDER, Bebeah, Singleton.—Name of wine, Verdôt red, 1881; vineyard, Bebeah. Quantity exhibited, six bottles; quantity in stock, 3,000 gallons; kind of vine, Verdôt; cost of cultivation per acre, £7 10s., quantity of this wine produced annually, about 3,000 gallons. Description—Verdôt red, vintage 1881; no spirit added; character, light; soil, rich, dark loam; trained to stakes with wire trellis.

MUNRO, ALEXANDER, Bebeah, Singleton.—Name of wine, Hermitage, 1881; vineyard, Bebeah. Quantity exhibited, six bottles; quantity in stock, 3,000 gallons; kind of vine, Hermitage; quantity of this wine produced annually, 4,000 gallons; cost of cultivation per acre, £7 10s. Description—Hermitage red, vintage 1881; 5s. per gallon; no spirit added; character, light; soil, rich, dark loam; trained to stakes with wire trellis.

MUNRO, ALEXANDER, Bebeah, Singleton.—Name of wine, Shiraz white, 1881; vineyard, Bebeah. Quantity exhibited, six bottles; quantity in stock, 4,000 gallons; kind of vine, Shiraz; quantity of this wine produced annually, 5,000 gallons; cost of cultivation per acre, £7 10s. Description—Shiraz white, vintage 1881; 5s. per gallon; no spirit added; character, light; soil, rich, dark loam; trained to stakes with wire trellis.

MUNRO, ALEXANDER, Bebeah, Singleton.—Name of wine, Reisling, 1881; vineyard, Bebeah. Quantity exhibited, six bottles; quantity in stock, 2,000 gallons; kind of vine, Reisling; quantity of this wine produced annually 4,000 gallons; cost of cultivation per acre, £7 10s. Description—Reisling, vintage 1881; 5s. per gallon; no spirit added; character, light; trained to stakes with wire trellis.

MUNRO, ALEXANDER, Bebeah, Singleton.—Name of wine Verdeilho, 1881; vineyard, Bebeah. Quantity exhibited, six bottles; quantity in stock, 2,000 gallons; kind of vine, Verdeilho; quantity of this wine produced annually, 1,000 gallons; cost of cultivation per acre, £7 10s. Description—Verdeilho; vintage, 1881; 5s. per gallon; character, light; trained to stakes with wire trellis.

MUNRO, ALEXANDER, Bebeah, Singleton.—Name of wine, Pedro Ximenes, 1883; vineyard, Bebeah, 64 acres. Quantity exhibited, six bottles; quantity of this wine in stock, 1,000 gallons; cost of cultivation per acre, £7 10s.

Description—Pedro Ximenes; vintage, 1882; 5s. per gallon; no spirit added; character, light; soil, rich, dark loam; stakes with wire trellis.

MUNRO, ALEXANDER, Bebeah, Singleton.—Name of wine, Hermitage, 1877; vineyard, Bebeah. Quantity exhibited, six bottles; quantity in stock, 100 gallons; kind of vine, Hermitage; cost of cultivation per acre, £7 10s. Description—Hermitage Red, planted 1864; vintage, 1877; 7s. per gallon; no spirit added; character, full-bodied; soil, rich, dark loam; trained to stakes with wire trellis.

MUNRO, ALEXANDER, Bebeah, Singleton.—Name of wine, Hermitage, 1879; vineyard, Bebeah. Quantity exhibited, six bottles; quantity in stock, 700 gallons; kind of vine, Hermitage; cost of cultivation per acre, £7 10s. Description—Hermitage Red; 6s. per gallon; vintage, 1882; no spirit added; character, full-bodied; trained to stakes with wire trellis.

MUNRO, ALEXANDER, Bebeah, Singleton.—Name of wine, Hermitage, 1882; vineyard, Bebeah. Area planted with this grape, 6 acres; quantity exhibited, six bottles; quantity in stock, 2,000 gallons; kind of vine, Hermitage, planted about 1864; quantity of this wine produced annually, about 2,000 gallons; cost of cultivation per acre, £7 10s. Description—colour, red; no spirit added; character, full-bodied; soil, rich, dark loam; trained on wires supported by stakes.

MUNRO, ALEXANDER, Bebeah Singleton.—Name of wine, Verdeilho, 1877; vineyard, Bebeah. Quantity exhibited, six bottles; area planted, 3 acres; quantity in stock, 120 gallons; kind of vine, Verdeilho; quantity of this wine produced annually, 1,000 gallons; cost of cultivation per acre, £7 10s. Description—Verdeilho; vintage, 1877; 21s. per dozen; character, full-bodied; trained to stakes with wire trellis.

MUNRO, ALEXANDER, Bebeah, Singleton.—Name of wine, Reisling, 1879; vineyard, Bebeah. Quantity exhibited, six bottles; area planted with this grape, 8 acres; quantity in stock, 500 gallons; kind of vine, Reisling; quantity of this wine produced annually, 2,000 to 3,000 gallons; cost of cultivation per acre, £7 10s. Description—Reisling; vintage, 1879; 18s. per dozen; no spirit added; character, light, dry; soil, rich, dark loam; trained to stakes with wire trellis.

MUNRO, ALEXANDER, Bebeah, Singleton.—Name of wine, Verdeilho, 1879; vineyard, Bebeah. Extent of vineyard, 64 acres; quantity exhibited, six bottles; quantity in stock, 400 gallons; kind of vine, Verdeilho, planted 1866 to 1870; cost of cultivation per acre, £7 10s. Description—vintage 1879; no spirit added; character, full-bodied; soil, rich, dark loam; trained to stakes and wire.

MUNRO, ALEXANDER, Bebeah, Singleton.—Name of wine, Pineau, 1880; vineyard, Bebeah. Quantity exhibited, six bottles; quantity in stock, 2,000 gallons; kind of vine, Pineau, planted from 1866 to 1870; quantity annually produced, 3,000 gallons; cost of cultivation per acre, £7 10s. Description—Pineau, vintage 1880; 18s. per dozen; no spirit added; character, full-bodied; soil, rich, dark loam; stakes with wire trellis.

MUNRO, ALEXANDER, Bebeah, Singleton.—Name of wine, Port, Red, 1878; vineyard, Bebeah. Quantity exhibited, six bottles; quantity in stock, 1,000 gallons; kind of vine, Port, mixed, planted 1865 and 1878; quantity of this wine produced annually 2,000 gallons; cost of cultivation, £7 10s. per acre. Description—Port, Red, 1878; 10s. per gallon; character, sweet; spirit added, 4% proof; trained to stakes with wire trellis; soil, rich, dark loam.

MUNRO, ALEXANDER, Bebeah, Singleton.—Name of wine, Muscat, 1879; vineyard, Bebeah. Quantity exhibited, six bottles; quantity in stock, 400 gallons; kind of vine, Muscat; quantity of this wine produced annually, 500 gallons; cost of cultivation per acre, £7 10s. Description—Muscat, tawny, yellow, vintage 1879; 10s. per gallon; spirit added, 4% proof; character, sweet; soil, rich, dark loam; trained to stakes with wire trellis.

MUNRO, ALEXANDER, Bebeah, Singleton.—Name of wine, Reisling, 1877; vineyard, Bebeah. Quantity exhibited, six bottles; quantity in stock, 135 gallons; kind of vine, Reisling; quantity of this wine produced annually, 2,000 to

3,000 gallons; cost of cultivation per acre, £7 10s. Description—Reisling, sweet, white, 1876; 10s. per gallon; spirit added, 3% proof; character, sweet; soil, rich, dark loam; trained to stakes with wire trellis.

MURRAY, ANDREW, Bannockburn, Inverell.—Name of wine, Red Hermitage; vineyard, Hillside, 14 acres. Area planted with this grape, 5 acres; quantity exhibited, six bottles; quantity in stock, 1,200 gallons; kind of vine, Red Hermitage, planted from 1872 to 1879; quantity of this wine produced annually, about 2,750 gallons; cost of cultivation per acre, about £10. Description—colour, red; no spirit added; character, full-bodied dry; soil, volcanic, red soil; trained on wires supported by stakes.

MURRAY, ANDREW, Bannockburn, Inverell.—Name of wine, Tokay or Salvanna; vineyard, Hillside. Area planted with this grape, 4 acres; quantity exhibited, six bottles; quantity in stock, about 700 gallons; kind of vine, Tokay or Salvanna; cost of cultivation per acre, £10; quantity of this wine produced annually, about 2,400 gallons. Description—yellowish white, vintage 1882; no spirit added; character, full-bodied, dry; soil, volcanic red soil; trained to wires supported by stakes.

MURRAY, ANDREW, Bannockburn, Inverell.—Name of wine, Shiraz; vineyard, Hillside. Quantity exhibited, six bottles; quantity in stock, about 2,000 gallons; kind of vine, Shiraz. Description of wine—white wine, full-bodied, vintage 1880; 4s. per gallon; no spirit added; character, full-bodied, dry; soil, volcanic red soil; trained to wires.

MURRAY, ANDREW, Bannockburn, Inverell.—Name of wine, Madeira; vineyard, Hillside. Area planted with this grape, 2 acres; quantity exhibited, six bottles; kind of vine, Madeira, planted 1877 and 1879; quantity of this wine produced annually, about 700 gallons; cost of cultivation per acre, about £10. Description—white wine, full-bodied, vintage 1882; no spirit added; character, full-bodied; soil, volcanic red soil; trained to wires supported by stakes.

MURRAY, ANDREW, Bannockburn, Inverell.—Name of wine, Malbec; Vineyard, Hillside. Area planted with this grape, 2 acres; quantity exhibited, six bottles; quantity in stock, about 400 gallons; kind of vine, Malbec, planted 1877 and 1879; quantity of this vine produced annually, about 1,200 gallons. Description—dark red, full-bodied, vintage 1882; price 3s. per gallon; no spirit added; character, full-bodied, dry; soil, volcanic red soil; trained on wires supported by stakes.

These wines are stated to be made from the pure juice of the grape, and are refined with the purest isinglass. The sugar contained in the juice at the time the grapes were gathered was 27 per cent., by the Hunter River Vineyard saccharometer. The wine will therefore be found to yield a high percentage of natural spirit. Tokay contained 28 per cent.

OGILVIE, HON. EDWARD D., M.L.C., Yulgilbar, Clarence River.—Name of wine, Yulgilbar No. 1; vineyard, Yulgilbar, 2 acres. Extent of area planted with the grape from which this wine is made, 1 acre; quantity exhibited, six bottles; kind of vine, unknown, planted 1867; quantity of this wine produced annually, about 100 gallons. Description—white, vintage 1875; no spirit added; character, light, dry; nature of soil, &c., decomposed granite, on hill slope to the west; staked. This wine took first prize in its class at the Sydney International Exhibition of 1879. The vineyard is of limited extent.

OGILVIE, HON. EDWARD D., M.L.C., Yulgilbar, Clarence River.—Name of wine, Yulgilbar No. 2; vineyard, Yulgilbar, 2 acres. Extent of area planted with this grape, ½ an acre; quantity exhibited, six bottles; kind of wine and date of planting, Madeira or Verdeilho, 1867; quantity of this wine produced annually, 60 gallons; description of this wine, light, dry, white, 1875; no spirit added; character, light.

OGILVIE, HON. EDWARD D., M.L.C., Yulgilbar, Clarence River.—Name of wine, Yulgilbar; vineyard, Yulgilbar, 2 acres. Extent of area planted with this grape, ½ an acre; quantity exhibited, six bottles; kind of vine and date of planting, Maderia or Verdeilho, 1867; quantity of this wine produced

annually, about 60 gallons. Description—golden colour, vintage 1876; no spirit added; full-bodied.

OGILVIE, HON. EDWARD D., M.L.C., Yulgilbar, Clarence River.—Name of wine, Yulgilbar Red; vineyard, Yulgilbar. Extent of area planted with this grape, ½ an acre; quantity exhibited, six bottles; kind of vine and date of planting, Red Hermitage and Pineau Noir, 1867; quantity of this wine produced annually, about 50 gallons. Description—dark red, vintage, 1876; no spirit added; character full-bodied, of the character of Burgundy.

SMITH, JAMES MONTAGU, Hinton, Hunter River.—Name of wine, Est Est, Nulla Nulla; vineyard, Nulla Nulla, on north bank of the Hunter, 13 acres in extent. Extent of area planted with this grape, about 2 acres; quantity exhibited, six bottles; quantity of this wine in stock, about 1,000 gallons; kind of vine and date of planting, Mixed Black Spanish and Malaga Muscatel, planted 1868. Description—sweet, tawny red colour, vintage 1880; 6s. per gallon. This is a liqueur wine much liked, but a very small quantity is made, which could be increased were there a demand; no spirit added; nature of soil, &c., sandy alluvial, S.E. aspect, steep hillside; trained to wire trellis.

SMITH, JAMES MONTAGU, Hinton, Hunter River.—Name of wine Est Est, Sweet White; vineyard, Nulla Nulla, on a hill on the north bank of river Hunter; extent, 13 acres. Extent of area planted with this grape, about 2 acres; quantity exhibited, six bottles; quantity of this wine in stock, about 1,000 gallons; kind of vine, white Shiraz, planted 1868. Description—sweet, white, dessert, 1882; 5s. per gallon in bulk. This wine sells readily at the price named. Exhibitor sends it to test the effect of the voyage; no spirit added; character, liqueur; nature of soil, sandy alluvium, S.E. aspect, steep hillside; trained to stakes and trellis.

SMITH, JAMES MONTAGU, Hinton, Hunter River.—Name of wine, Est Est S., Dry Red; vineyard Nulla Nulla, on a hill on north bank of the Hunter river, 13 acres. Extent of area planted with this grape, about 5 acres; quantity exhibited, six bottles; quantity of this wine in stock, about 2,000 gallons; kind of vine and date of planting, *black* Hermitage, planted 1868; quantity of this wine produced annually, from 2,000 to 3,000 gallons. Description—light, dry, free from acidity, made 1883; 3*s.* 6*d.* per gallon in bulk; no spirit added; strength, about 26%; nature of soil, sandy alluvium, white gravelly sub-soil, easterly aspect; trained to stakes and wire trellis.

SMITH, JAMES MONTAGU, Hinton, Hunter River.—Name of wine, Est Est, Dry White; vineyard, Nulla Nulla on north bank of Hunter river. Extent of area planted with this grape, about 8 acres; quantity exhibited, six bottles; quantity of this wine in stock, about 3,000 gallons; kind of vine and date of planting, Shepherd's Reisling, planted 1863; quantity of this wine produced annually, about 3,000 gallons, as a rule; price of this wine when newly made at vineyard, about 2*s.* 6*d.* per gallon. Description—pale golden colour, made 1883; 3*s.* 6*d.* per gallon; no spirit added; character, light dry; strength 26 per cent.; nature of soil, sandy alluvium, white gravelly sub-soil; trained to stakes and wire trellis.

STEPHEN & Co., G. H., Ivanhoe, Hunter River.—Name of wine, Ivanhoe Sauterne; vineyard, Ivanhoe, Hunter River, 12 acres in extent. Area planted with this grape, 4 acres; quantity exhibited, six bottles; kind of vine, Reisling and white Shiraz; quantity of this wine produced annually, 1,000 gallons; cost of cultivation per acre, £7. Description—white vintage, 1879; price, 30s. per dozen; no spirit added; character, full-bodied, dry; strength, about 23%; soil, red calcareous hill-side, N.E.; aspect, trained espalier.

STEPHEN & Co., G. H., Ivanhoe, Hunter River.—Name of wine, Ivanhoe Hermitage; vineyard, Ivanhoe. Area planted with this grape, 5 acres; quantity exhibited, six bottles; kind of vine, Hermitage; quantity of this wine produced annually, 1,000 gallons; cost of cultivation per acre, £7. Description—red vintage, 1879; price, 25*s.* per dozen; no spirit added;

character, medium; strength estimated at 22%; soil, red, calcareous; trained espalier.

STEPHEN & Co., G. H., Ivanhoe, Hunter River.—Name of wine, Ivanhoe Burgundy; vineyard Ivanhoe. Area planted with this grape, 7 acres; quantity exhibited, six bottles; quantity in stock, 2,000 gallons; quantity of this wine produced annually, 2,000 gallons; cost of cultivation per acre £7. Description—red, a blend from several vineyards, vintage, 1882; no spirit added; character, medium; strength, about 22%.

WILKINSON, JOHN A., Coolalta, Branxton.—Name of wine, Claret, 1881; vineyard, Coolalta, Branxton. Extent of area planted with the grape, 10 acres; quantity exhibited, six bottles; quantity in stock, 15,000 gallons; kind of vine, Hermitage and Malbec, 1867; quantity of this wine produced annually 5,000 gallons; cost of cultivation per acre, £8; price of wine when newly made, 2s. 6d. per gallon. Description—full claret, rich colour; vintage, 1881; price in Sydney, 5s. per gallon; no spirit added; character, medium; strength about 22%; soil, red; volcanic nature, northerly; aspect trained to stakes.

WILKINSON, JOHN A., Coolalta, Branxton.—Name of wine, Hock; vineyard, Coolalta. Area plated with this grape, 4 acres; quantity exhibited, six quart bottles; quantity in stock, 10,000 gallons; kind of vine, Verdeilho and Shiraz, 1867; quantity of this wine produced annually, 2,000 gallons; cost of cultivation per acre, £8; price when newly made at vineyard 2s. 6d. per gallon. Description—like hock, pale golden, vintage 1876; character, light or medium; strength 22%; soil, red volcanic; trained.

WILKINSON, JOHN A., Coolalta, Branxton.—Name of wine, Hermitage, 1880; vineyard, Coolalta; quantity exhibited, six bottles; quantity in stock, about 4,000 gallons; kind of vine, Hermitage, planted 1867; cost of cultivation per acre, £8 per annum. Description—red, vintage 1880; character, full-bodied; strength 22%; red soil; trained to stakes.

WILKINSON, JOHN A., Coolalta, Branxton.—Name of wine Hermitage and Malbec, 1881; vineyard, Coolalta. Quantity exhibited, six bottles; quantity in stock, 4,000 gallons; kind of vine, blend of Hermitage and Malbec; planted 1867; cost of cultivation per acre, £8 per annum. Description—red, vintage 1879; character, medium; strength 22%; red soil; trained to stakes.

WILKINSON, JOHN A., Coolalta, Branxton.—Name of wine, Burgundy, 1881; vineyard, Coolalta; quantity exhibited, six bottles; quantity in stock, 1,000 gallons; kind of vine, Burgundy, planted 1867; cost of cultivation per acre, £8. Description—red, vintage 1881; character medium; strength 22%; red soil; trained to stakes.

WILKINSON, JOHN A., Coolalta, Branxton.—Name of wine, Pineau and Madeira: vineyard, Coolalta. Quantity exhibited, six bottles; quantity in stock, 3,000 gallons; kind of vine, blend Pineau and Madeira; cost of cultivation per acre, £8 per annum. Description—red, vintage, 1879; character, medium; strength, 22%; soil, red; trained to stakes.

WYNDHAM, JOHN, Dalwood, near Branxton.—Name of wine, Red Dalwood; vineyard, Dalwood; area, 70 acres; variety of grape, Hermitage; vintage, 1877; quantity exhibited, eight bottles. This wine is a sample of a 300-gallon cask.

WYNDHAM, JOHN, Dalwood, near Branxton.—Name of wine, Red Dalwood; vineyard Dalwood; variety of grape, Hermitage; vintage, 1881; quantity exhibited, eight bottles. This wine is a sample of a 100-gallons cask.

WYNDHAM, JOHN, Dalwood, near Branxton.—Name of wine, Red Dalwood; vineyard, Dalwood; variety of grape, Hermitage; vintage, 1881; quantity exhibited, eight bottles. This wine is a sample of a 240-gallon cask.

WYNDHAM, JOHN, Dalwood, near Branxton.—Name of wine, Red Dalwood; vineyard, Dalwood; variety of grape, Hermitage, 1882; quantity exhibited eight bottles. This wine is a sample of a 800-gallon cask.

WYNDHAM, JOHN, Dalwood, near Branxton.—Name of wine, Red Dalwood; vineyard, Dalwood; variety of grape Hermitage; vintage, 1882; quantity exhibited eight bottles. This wine is a sample of a 3,200-gallon cask.

WYNDHAM, JOHN, Dalwood, near Branxton.—Name of wine, Red Dalwood; vineyard, Dalwood; variety of grape, Hermitage and Verdôt; vintage 1881; quantity exhibited, eight bottles. This wine is a sample of six casks, in all 1,900 gallons.

WYNDHAM, JOHN, Dalwood, near Branxton.—Name of wine, Red Dalwood; vineyard, Dalwood; variety of grape, Verdôt; vintage, 1876; quantity exhibited, eight bottles. This wine is a sample of a 330-gallon cask.

WYNDHAM, JOHN, Dalwood, near Branxton.—Name of wine, Red Dalwood; vineyard, Dalwood, Variety of grape, Verdot; vintage, 1882; quantity of wine exhibited, eight bottles. This wine is a sample of a 1,000-gallon cask.

WYNDHAM, JOHN, Dalwood, near Branxton.—Name of wine Red Dalwood; vineyard, Dalwood. Variety of grape. Verdot vintage, 1882; quantity exhibited, eight bottles. This wine is a sample of 1,000-gallons.

WYNDHAM, JOHN, Dalwood, near Branxton.—Name of wine, Red Dalwood; vineyard, Dalwood. Vatrety of grape, Verdot and Black Spanish; vintage, 1881-82 quantity exhibited, eight bottles. This wine is a sample of a 3,200-gallon cask.

WYNDHAM, JOHN, Dalwood, near Branxton.—Name of wine Red Dalwood; vineyard, Dalwood. Variety of grape, Verdot and Blac k Spanish; vintage, 1881-82; quantity exhibited, eight bottles. This wine is a sample of a 3,100-gallon cask.

WYNDHAM, JOHN, Dalwood, near Branxton.—Name of wine, White Dalwood; vineyard, Dalwood. Variety of grape, Verdot and Black Spanish; vintage, 1881-82; quantity exhibited, eight bottles. This wine is a sample of 12,000 gallons.

WYNDHAM, JOHN, Dalwood, near Branxton.—Name of wine, Red Dalwood; vineyard, Dalwood. Variety of grape, Malbec; vintage, 1881-82; quantity exhibited, eight bottles. This wine is a sample of 1,700 gallons.

WYNDHAM, JOHN, Dalwood, near Branxton.—Name of wine, Red Dalwood; Must; vineyard, Dalwood. Variety of grape, Hermitage; vintage, 1883; quantity exhibited, eight bottles. This wine is a sample of a 1,000-gallon cask.

WYNDHAM, JOHN, Dalwood, near Branxton.—Name of wine, Red Dalwood; Must; vineyard, Dalwood. Variety of grape, Hermitage, 1883; quantity exhibited, eight bottles. This wine is a sample of a 4,000-gallon cask.

WYNDHAM, JOHN, Dalwood, near Branxton.—Name of wine, Red Dalwood; Must; vineyard, Dalwood, Variety of grape, Verdot and Black Spanish; vintage, 1882-83; quantity exhibited, eight bottles. This wine is a sample of a 3,000-gallon cask,

WYNDHAM, JOHN, Dalwood, near Branxton.—Name of wine, Red Dalwood, Must; vineyard, Dalwood. Variety of grape, Verdot and Black Spanish; vintage, 1828-83; quantity exhibited, eight bottles. This wine is a sample of a 3,200-gallon cask.

WYNDHAM, JOHN, Dalwood, near Branxton.—Name of wine, Red Dalwood, Must; vineyard, Dalwood. Variety of grape, Verdot and Black Spanish; vintage, 1882-83; quantity exhibited, eight bottles. This wine is a sample of 12,000 gallons.

WYNDHAM, JOHN, Dalwood, near Branxton.—Name of wine, White Dalwood; vineyard, Dalwood. Variety of grape, Pineau Blanc; vintage, 1877; quantity exhibited, eight bottles. This wine is a sample of a 240-gallon cask.

WYNDHAM, JOHN, Dalwood, near Branxton.—Name of wine, White Dalwood; vineyard, Dalwood. Variety of grape, Pineau Blanc; vintage, 1879; quantity exhibited, eight bottles. This wine is a sample of a 300-gallon cask.

WYNDHAM, JOHN, Dalwood, near Branxton.—Name of wine, White Dalwood; vineyard, Dalwood. Variety of grape, Pineau Blanc; vintage, 1879; quantity exhibited, eight bottles. This wine is a sample of a 330-gallon cask.

WYNDHAM, JOHN, Dalwood, near Branxton.—Name of wine, White Dalwood; vineyard, Dalwood. Variety of grape, Pineau Blanc; vintage, 1881; quantity exhibited, eight bottles. This wine is a sample of a 2,850-gallon cask.

WYNDHAM, JOHN, Dalwood, near Branxton.—Name of wine, White Dalwood; vineyard, Dalwood. Variety of grape, Pineau Blanc; vintage, 1881; quantity exhibited, eight bottles. This wine is a sample of a 320-gallon cask.

WYNDHAM, JOHN, Dalwood, near Branxton.—Name of wine, White Dalwood; vineyard, Dalwood. Variety of grape, Pineau Blanc; vintage, 1882; quantity exhibited, eight bottles. This wine is a sample of a 210-gallon cask.

WYNDHAM, JOHN, Dalwood, near Branxton.—Name of wine, White Dalwood; vineyard, Dalwood. Variety of grape, Madeira; vintage, 1877; quantity exhibited, eight bottles. This wine is a sample of a 120-gallon cask.

WYNDHAM, JOHN, Dalwood, near Branxton.—Name of wine, White Dalwood; vineyard, Dalwood, variety of grape, Madeira; vintage, 1881; quantity exhibited, eight bottles. This wine is a sample of a 110-gallon cask.

WYNDHAM, JOHN, Dalwood, near Branxton.—Name of wine, White Dalwood; vineyard, Dalwood. Variety of grape, Reisling and Madeira; vintage, 1879; quantity exhibited, eight bottles. This wine is a sample of 1,600 gallons.

WYNDHAM, JOHN, Dalwood, near Branxton.—Name of wine, White Dalwood; vineyard, Dalwood. Variety of grape, Reisling; vintage, 1881; quantity exhibited, eight bottles. This wine is a sample of 330 gallons.

WYNDHAM, JOHN, Dalwood, near Branxton.—Name of wine, White Dalwood; vineyard, Dalwood. Variety of grape, Reisling; vintage, 1881; quantity exhibited, eight bottles. This wine is a sample of a 1,200-gallon cask.

WYNDHAM, JOHN, Dalwood, near Branxton.—Name of wine, White Dalwood; vineyard, Dalwood. Variety of grape, Shiraz; vintage, 1881; quantity exhibited, eight bottles. This wine is a sample of a 1,200-gallon cask.

WYNDHAM, JOHN, Dalwood, near Branxton.—Name of wine, White Dalwood; vineyard, Dalwood. Variety of grape, Pedro Ximenes; vintage, 1879; quantity exhibited, eight bottles. This wine is a sample of 600 gallons.

WYNDHAM, JOHN, Dalwood, near Branxton.—Name of wine, White Dalwood; vineyard, Dalwood. Variety of grape, Pedro Ximenes; vintage, 1881; quantity exhibited, eight bottles. This wine is a sample of a 500-gallon cask.

WYNDHAM, JOHN, Dalwood, near Branxton.—Name of wine, White Dalwood; vineyard, Dalwood. Variety of grape, Pedro Ximenes; vintage, 1882; quantity exhibited, eight bottles. This wine is a sample of a 230-gallon cask.

WYNDHAM, JOHN, Dalwood, near Branxton.—Name of wine, White Dalwood, Must; vineyard, Dalwood; variety of grape, Reisling; vintage, 1883; quantity exhibited, eight bottles. This wine is a sample of a 330 gallon cask.

WYNDHAM, JOHN, Dalwood, near Branxton.—Name of wine, White Dalwood; vineyard, Dalwood; variety of grape, Reisling; vintage, 1883; quantity exhibited, eight bottles. This wine is a sample of a 320-gallon cask.

WYNDHAM, JOHN, Dalwood, near Branxton.—Name of wine, White Dalwood; vineyard, Dalwood; variety of grape, Pineau Blanc; vintage, 1883; quantity exhibited, eight bottles. This wine is a sample of seven casks, each 1,200 gallons; in all 8,400 gallons.

The exhibitor furnishes the following information:—

These wines represent 71,500 gallons in stock, and 276,000 gallons made from the years 1876 to 1883, inclusive. The quantities produced annually vary according to season. The vintage of 1883 exceeded 45,000 gallons, after the loss of nearly half the crop by hail, &c. The vineyard covers an area of 70 acres. The cost of cultivation per acre is from £18 to £20, the

whole vineyard being kept at all times in perfrct order. The vintage of 1883 has been purchased by Messrs. Woods Brothers & Co., at an average of over 2s. 6d. per gallon. The character of the wines ranges from light to medium, full-bodied; strength from 20% to 24% natural proof spirit; the bulk being 21% natural proof spirit. The wines are not fortified. The soil is a red sandy loam, generally of great depth, with a substratum of ironstone gravel; then a rich marl clay, intermixed with small globules of lime. The mode of cultivation is with horse-plough between the vines, and with hand-hoe to break up under vine plants—all vines staked and trained on wire espalier fashion. The vines were first planted by the late George Wyndham, the father of the present proprietor, in the years 1829, 1833, and about 1857. After the new plantation began to bear fruit the old vines were taken up. The industry has therefore been established at Dalwood for more than fifty years. The vineyard is kept in the highest possible state of cultivation, and all vine and wine refuse is regularly returned to the soil in a systematic manner.

BARRETT & Co., Buckingham Street, Sydney.—Bitters.

HUME & PEGRUM, Regent Street, Redfern, Sydney.—Samples of Noyeau, Maraschino, Curacoa, and Usquebaugh.

HUME & PEGRUM, Regent Street, Redfern,—Fruit wines.

HUME & PEGRUM, Regent Street, Redfern, Sydney.—Staughton bitters, orange bitters, golden bitters, aromatic tonic bitters, Champagne quinine wine, phosphated tonic wine quinine nervine.

CLASS CXXXIII.—CORDIALS AND SYRUPS.

BARRETT & Co., Buckingham Street, Sydney.—Limejuice cordial. Syrups and cordials.

HUME & PEGRUM, Regent Street, Redfern, Sydney.—Raspberry vinegar, limejuice cordial, lemon syrup, peppermint, cloves, pineapple syrup. Lemon syrup, raspberry syrup.

CLASS CXXXIV.—AERATED AND MINERAL WATERS.

BARRETT & Co., Buckingham Street, Sydney.—Aerated and mineral waters.

COOMA PASTORAL, AGRICULTURAL, AND PLOUGHING ASSOCIATION, Cooma.—Small sample of mineral water from spring near Cooma.

HUME & PEGRUM, Regent Street, Redfern, Sydney.—Lemonade, tonic-water, seltzer-water, ginger ale and sodawater.

CLASS CXXXV.—VINEGAR.

BARRETT & Co., Buckingham Street, Sydney.—Vinegar.

MONK, D. J., 295, Sussex Street, Sydney.—Vinegar.

The manufacture of vinegar has been carried on by the present proprietor for about twenty years. The production weekly of vinegar is about 2,000 gallons or 100,000 to 150,000 gallons per annum. About twenty men are constantly employed, besides coopers. The quantity of vinegar bottled weekly is about 300 to 600 dozen. The price of vinegar is less than it is sold at in London.

CLASS CXXXVI.—PROVISIONS NOT SPECIFIED IN OTHER CLASSES.

JAMES, H., Picton (Shown under the auspices of the Picton, Camden, and Campbelltown Agricultural and Horticultural Society, G. Bradbury, Secretary).—Bacon, hams.

MEAKER, GEORGE, Spring Bank, Bega.—Bacon, hams.

PICTON, CAMDEN, AND CAMPBELLTOWN AGRICULTURAL SOCIETY, Picton (G. Bradbury Secretary).—Bacon, hams.

SOUTH COAST AND WEST CAMDEN. Co-operative Co.—Office, Sussex Street, Sydney (John Graham, Manager).—Bacon, hams.

SECTION I.—AGRICULTURE AND HORTICULTURE.

CLASS CXXXVII.—COLLECTIONS OF AGRICULTURAL PRODUCTS

ALLEN, Executrix and Executors of the late John Stony Creek, Young.—White wheat.

ANDREWS, R. E., Woodside, Manning River.—Maize; maize in cob.

BRIDLE, WM., Rose Vale, Tumut.—Twelve cobs white spindle maize.

BROWN, JOHN, Burrundulla, Mudgee (per Mudgee Agricultural Society).—Maize.

COHEN & LEVY, Tamworth.—Wheat.

CONDIE, ROBERT, Shoalhaven. (See South Coast and West Camden Co-operative Company).—Maize.

CONLON, J., Picton (Shown under auspices of Picton, Camden, and Campbelltown Agricultural Society).—Black sorghum.

CONLON, B., Freeman's Reach, Hawkesbury River.—Maize in cob.

COX, HERBERT A., Burrundulla, Mudgee.—Maize, white and yellow

CRAVEN, T. W., 164, Sussex Street, Sydney.—Maize and oats, millet-seed.

The latter exhibit was grown by Mr. Chas. Phillips of Raymond Terrace. Millet is used as provender for horses, and is said to possess rare fattening qualities.

CRAVEN, T. W. 164, Sussex Street, Sydney.—One bag, each half-bushel, of the following:—

Blue boiling peas, Hunter river.
Yellow hogan maize, Macleay river.
Feed oats
Seed oats (Tartarian)
Ditto ditto
Mixed black and white
Cape barley
} Manning river.

The oats and barley were grown at Croki, Manning river, by Mr. Geo. Shoesmith and Mr. Peter Davis.

CRAVEN, T. W., 164, Sussex Street, Sydney.—Maize cobs.

The above exhibits were grown on the Macleay river. They were mostly grown by Mr. Wm. Arthur, Rainbow Reach.

CRAWFORD, A. R., Moona Plains, Walcha.—White haricot beans.

This bean is a runner or pole bean. It may also be grown without poles or stocks. It is very productive of a fine flavour, and may be used either green or dry. It stands hot weather well, or continued wet.

DALTON BROTHERS, Summer Street.—Orange, wheat, oats.

DITZELL, JOHN, Mosheim, Inverell.—Wheat, maize, skinless barley.

DOUST, D., Camden (Shown under the auspices of the Picton, Camden, and Campbelltown Agricultural Society; G. Bradbury, Secretary.—

Black sorghum, yielding 50 bushels of seed and 20 tons fodder to the acre.
Planter's friend, yielding 40 bushels per acre.
Pearl millet, „ 40 „ „

DOWNES, F. W., Camden (Shown under the auspices of the Picton, Camden, and Campbelltown Agricultural Society; G. Bradbury, Secretary).—

Large yellow maize, yielding 80 bushels per acre.
Small „ „ „ 60 „ „
Buckwheat „ 40 „ „
Planter's friend „ 40 „ „

DRYER, JOHN K., Tamworth.—Barley, wheat, oats, maize, Hungarian millet.

DUNK, T., Camden (Shown under the auspices of the Picton, Camden, and Campbelltown Agricultural Society; G. Bradbury, Secretary).—

Creeping wheat, yielding 36 bushels per acre.
White " " 30 " "

FOLEY, JAMES, Lower Peak, Mudgee (Shown under the auspices of the Mudgee Agricultural Society).—Wheat.

GEEHAN, JAMES, Freeman's Reach, Windsor, Hawkesbury River.—Maize.

GILLESPIE, L.—Orange, maize, oats.

GRAHAM, NEVILLE, Murrumburrah (*Vide* South Coast and West Camden Co-operative Company).—Wheat.

GRANT, WILLIAM, Mullamuddy, near Mudgee; Per Mudgee Agricultural Society.—Maize (large).

HAYTER, JAS., Camden (Shown under the auspices of the Picton, Camden, and Campbelltown Agricultural Society; G. Bradbury, Secretary).—

Oaten hay, yielding 30 cwt. per acre. Lucerne hay.

HENDERSON, WM., Spring Farm, near Uralla (Shown under the auspices of the Southern New England Pastoral and Agricultural Society; Mr. J. D. Leece, Secretary).—White wheat.

The locality where this exhibit was grown is about 3,500 feet above sea-level; latitude, about 31 deg. south.

HURST, WILLIAM, Bathurst (Shown through Messrs. E. Webb & Co., Bathurst).—Wheat, 97½ lbs.

HUTCHISON, JAMES, Singleton.—Maize, lucerne seed, wheat, oats, English barley.

HYAN, S. H., Wharf-street, off Market-street, Sydney.—

Maize. Samples from the Shoalhaven, Manning, Clarence, Macleay, and Bega districts.
Oats. Tartarian black, feed and seed.

ISBESTER, THOMAS, Gulgong, near Mudgee (Per Mudgee Agricultural Society).—Wheat, skinless barley, skinless oats, Mammoth rye.

JAUNCEY, JOHN, Angledale, Bega.—Maize, yellow dented.

This exhibit was grown by the exhibitor; the maize weighs, on the average, 66 lbs. to the bushel, the yield being 80 bushels to the acre.

KELLY, PETER, Wilbertree, Mudgee (Per Mudgee Agricultural Society).—White oats. Maize, large, and Ninety-day.

KECLINER, KILIAN, Tarraganda, Bega.—Maize, old yellow.

This exhibit weighs 62 lbs. to the bushel, and, on the average, yields 70 bushels to the acre.

MACKAY, G. E., Albury.—White oats.

MARTIN, W. FRASER, J. P., 131, Sussex Street, Sydney.—Maize.

MCALISTER, R. & J., Tumut.—Red spindle corn or maize, in cob.

MCFADYEN, JOHN, Bolwarra, West Maitland.—Maize, sorghum.

MCLEAN, JAMES, Gorowa.—Wheat, white and red.

MCMAHON, T., Burragorang (Shown under auspices of Picton, Camden, and Campbelltown Agricultural Society; G. Bradbury, Secretary).—Large yellow maize, yielding 86 bushels per acre.

MOFFATT, JOSIAH, Uralla (Shown under the auspices of the Southern New England Pastoral and Agricultural Society).—Wheat.

MOORE, J. E., Camden. (Shown under auspices of Picton, Camden, and Campbelltown Agricultural Society).—Maize, yielding 60 bushels per acre. Early French do., yielding 40 bushels per acre. Black sorghum.

MUNN, A. L., Maizena Works, Merimbula.—Maize in cob.

MUNSIE, SAMUEL, *Kelvin Grove Farm, near Uralla, New England* (Shown through the Southern New England Pastoral and Agricultural Association; Mr. J. D. Leece, Secretary).—One box maize cobs. Wheat, 1 bag containing two samples, red and white.

The locality where this exhibit was produced is about 3,500 feet above sea-level. Lat. about 31° south.

ONSLOW, MRS., Camden Park (Shown under the auspices of Picton, Camden, and Campbelltown Agricultural and Horticultural Society; G. Bradbury, Secretary).—

Large yellow maize, yielding 80 bushels per acre.
Small do. do. 60 do.
Early French maize, do. 40 do.
Buckwheat, do. 40 do.
Sorgrum, yielding 50 bushels seed and 20 tons fodder to the acre.

PAGE, SAMUEL, Mullamuddy, near Mudgee (Shown under the auspices of Mudgee Agricultural Society).—White oats.

PICTON, CAMDEN, AND CAMPBELLTOWN AGRICULTURAL SOCIETY, George Bradbury, Secretary (Vide entries under names of Mrs. Onslow, F. W. Downes, T. McMahon, J. E. Moore, D. Doust, J. Coulon, T. Dunk, and Jas. Hayter).—Maize, wheat, rye, buckwheat, linseed, sorghum, millet-seed, oaten hay, lucerne hay.

ROBERTSON, D. F., Brungle, near Tumut.—Wheat.

Half bushel white lammas wheat, a fair sample of 300 bushels; yield per acre, 82 bushels.

SCOTT, W. F., Orange.—Wheat.

SEEBEY, THOS., Yurrang, Burrawang.—Oats.

SMALLWOOD, D. J., Caddia Road, Pitt Town, Hawkesbury River.—Large white maize, large yellow maize, ninety-day maize.

SMITH, IRWIN, Wallendbeen.—Wheat.

SOUTH COAST AND WEST CAMDEN CO-OPERATIVE COMPANY. Office, Sussex Street, Sydney; John Graham, Manager.—Wheat grown at Murrumburrah, maize grown at Shoalhaven.

SOUTHWOOD, G. J., Mudgee (Per Mudgee Agricultural Society).—Wheat.

SPRING HILL FARMERS' UNION, Spring Hill.—Cereals.

STOREY & CRAGO, John Street, Singleton.—Wheat, lucerne-seed.

SUMMERHAYS, GEORGE, Pioneer Farm, Monteagle, Young (Shown under auspices of Burrangong Pastoral and Agricultural Society; F. A. Brock, Secretary).—White lammas wheat, cleaned by winnowing machine.

TAYLOR, DEIGHTON, Springfield, Figtree, P. O., Illawarra.—Seed maize.

URQUHART, JOHN, M'Donald's Creek, Mudgee (Shown through Mudgee Agricultural Society).—Wheat.

VICKERY, EDWARD, Tumut.—White spindle maize, horsetooth maize.

WALL, JOHN, Botobolar, Mudgee (Shown through Mudgee Agricultural Society).—Wheat.

WALSH, SAMUEL, Long Swamp (Shown through Spring Hill Farmers' Union).—Wheat (white).

WARBOISE, T., Spring Hill, near Orange (Shown through Spring Hill Farmer's Union).—Oats (white).

WEBB & Co., Bathurst.—Wheat.

WINGHAM, GEO., Spring Grove, near Orange (Shown through Spring Hill Farmers' Union).—Wheat (white).

WULSON, WILLIAM, Merton Street, Bathurst.—Barley, maize, oats.

YOUNG, O. K., High Street, West Maitland.—Wheat, barley, oats, maize, sorghum seed, planter's friend, lucerne seed, blue millet seed.

CLASS CXXXVIII.—COLLECTION OF HORTICULTURAL PRODUCTS.

BOWEN, G. B., Bowen Mount, Kurrajong.—Oranges, lemons, and mandarin oranges.

DUNSTON, WM., Kurrajong.—Oranges and lemons.

GRIFFIN, T. H. F., Richmond.—Oranges.

JOHN, THOMAS, JUNR., Kurrajong.—Oranges and lemons.
M'KROWN, W. H., Roseville, Gordon.—Oranges and lemons.
PECK, HENRY, Kurrajong Heights.—Oranges and lemons.

CLASS CXXXIX.—PROCESSES, IMPLEMENTS, AND MACHINERY USED IN CULTIVATION.

RITCHIE, R. A., George and Macquarie Streets, Parramatta.—Ploughs.
RITCHIE, WILLIAM, Granville. Light plough, No. 1 plough, with revolving coulter and extra finish, two-horse plough, without paint or filing.
WRIGHT, JOHN, 377, Sussex Street, Sydney. No. 1 plough, 3 ploughs, 1 pr. harrows, 1 scarifier, 1 set whipple-trees, 1 plough (electro-plated and painted) 1st prize at Hawkesbury Show.

SECTION K.—ETHNOLOGY, ARCHÆOLOGY, AND NATURAL HISTORY.

CLASS CXLIV.—ETHNOLOGICAL COLLECTIONS.

COMMISSIONERS FOR NEW SOUTH WALES.—Six photographs of Australian aborigines, originally prepared for the New South Wales Commissioners for the Amsterdam Exhibition by J. W. Lindt of Grafton, New South Wales, and Melbourne, Victoria.

These photographs were taken from life by Mr. Lindt, and comprise men, women, and children of various ages, belonging to the tribes of the Clarence River, Richmond River, Urara River, Yulgilbar, Cunglebung and the Northern Coast of New South Wales.

Views of Old Sydney and Parramatta at and about the period of settlement; photographed by the Government Printer, for the Commissioners, from Collins's account of the English Colony of N.S.W., London, 1798, and Hunter's Journal of Transactions at Port Jackson and Norfolk Island, London, 1793; lent for the purpose by the Secretary to the New South Wales Commission.

COX, ALLASTER E., 75, Hunter Street, Sydney. Ethnological Collection. (Illustrating Australia and surrounding Islands, &c.)—

Stone axe-heads, Australia (New South Wales and Queensland).
Stone axe-heads, New Caledonia.
Stone axe-heads, Fiji.
Stone axe-heads, Solomon Islands; 60, 65, 70, with handles.
Stone axe-heads, from Caroline Islands. 97 made from large tridacna shell.
Stone axe-heads with handles, New Guinea.
Axe-head fixed in double handle, used for shaping canoes. Can be used with either long or short handle, as required, and is so made that the short handle rotates when fixed in the long, and allows the workman to use it at any angle he may wish.
Stone axe-head in handle, New Caledonia.
Fighting spears, Queensland.
Fighting spears, Botany Bay, New South Wales.
Womera for throwing spears, New South Wales.
Shields, New South Wales.
Shield, Queensland.
Nulla Nullas, Queensland.
Boomerangs, Queensland. 151 is also used as a sword.

Boomerangs, New South Wales.
Boomerangs, Queensland.
Drills from Solomon Island, used for making holes through shells, &c., and boring holes in the wood of which canoes are constructed; by this means they are sewn together. It is supposed that the possession of this valuable drill accounts for these islanders building larger and more powerful canoes than any other islanders.
Womera, Queensland.
Images taken from bows of war canoes, Solomon Islands.
Food-bowls, South Sea Islands.
Image taken from bow of war canoe, Solomon Islands.
Double-handled sword, supposed to be from New Caledonia.
Solomon Island sword.
Merie, New Zealand, made from symphias of lower jaw of the whale.
Stone war head-dress, Florida Islands.
Staffs used only by chiefs in Solomon Islands, probably for inflicting punishment.
Stone-headed clubs, New Guinea.
Wombabbadah, for fighting only, New South Wales.
Nulla Nulla, Queensland.
Boomerang, Queensland.
Carved paddle, Solomon Islands.
Clubs, South Sea Islands.
Paddles, canoe, South Sea Islands.
Spears with talc heads, Admiralty Islands.
Shields, made of basket-work, South Sea Islands.
Iron-headed axes, New Guinea, now used in place of stone, and obtained from the traders.
Bows, South Sea Islands.
Club, South Sea Islands.
Bow and 13 rush arrows, tipped with cocoa-nut wood, barbed with human bones; nine tipped with cocoa-nut wood, not barbed. Poisoned. Solomon Islands.
Thirty rush arrows, cocoa-nut wood tipped, red and ochred points. Poisoned.
These are used both as paddles and swords, South Sea Islands.
War swords, carved handles, South Sea Islands.
Sword barbed with shark teeth, Solomon Islands.
Spears, South Sea Islands.
Spear-head, South Sea Islands.
Spear, barbed with human bones, poisoned, Solomon Islands.
Rolls of Tappa, Fiji; twenty-six and five yards long respectively.
Canoe ornaments, Solomon Islands.
Canoe war ornament, Solomon Islands.
Twenty shell bracelets, Solomon Islands.
Chunam boxes, used whilst chewing betel-nuts, Solomon Islands.
Water-bottle, Fiji.
Nine hair-combs, South Sea Islands.
House mats, New Guinea.
Head-dress, worn at war dance, New Hebrides.
Dresses of females, South Sea Islands.
Dresses of males, South Sea Islands.
Medicinal plants, worn round the neck as charms, Solomon Islands.
Caps, South Sea Islands.
Baskets and bags made from leaves of cocoa-nut palm, South Sea Islands.
Shell necklace, Solomon Islands.

TATHAM, EDWIN, Mullens Street, Balmain, Sydney.—Glass shade, containing—Australian aborigines' camp; Australian kangaroo chase; Australian opossum hunt—all made by the exhibitor from glass. Illustrative of habits of Australian blacks.

CLASS CXLVII.—IMPLEMENTS CONNECTED WITH FISHERY.

JEWELL, EDWARD, Botany, near Sydney.—Fishing lines for catching schnapper, bream, cod, flathead, shark, and other fish.

CLASS CXLVIII.—COLLECTIONS OF ANIMALS STUFFED, &c.

BAILEY AND KERR, 111, King Street, Sydney.—Stuffed animals, including birds of New South Wales.

BRAY, JAMES S., 84, Forbes Street, Woolloomooloo, Sydney.—Collection of birds—

Common name.	*Scientific name.*
The Red Robin	Petroica multicolor.
Yellow-tufted Honeyeater. ...	Ptilotis auricomis.
Parrakeet	Platycercus spurius.
Little Lorikeet	Glossopsitta pusilla.
Porphyry Crowned Lorikeet ...	Do. porphyrocephalus.
The King Parrot	Aprosmictus scapulatus.
The Regent Bird	Sericulus melinus.
The Rosella Parrot (2) ...	Platycercus eximius.
The Lory do. ...	Do. pennantii.
Green Leek do. ...	Polytelis barrabandi.
Blue Mountain Parrot ...	Trichoglossus novæ hollandiæ.
The Shell do. ...	Do. chlorolepidotus.
The Pitta Bird ...	Pitta strepitans.
Lorikeet.	Trichoglossus concinnus.

BRAY, JAMES S., 84, Forbes Street, Woolloomooloo, Sydney—

1. The Diamond Snake (Morelia Spillotes, non-venomous), North Shore, Sydney.
2. The Lace Lizard (Hydrosaurus varius), North Shore, Sydney.
3. The Tiger Shark, or Wobbegong (Crossorhinus barbatur), Sydney Harbour.
4. The Dog Fish, or Puppy Shark, Sydney Harbour, North Shore.
5. The Hammer-headed or Shovel-nosed Shark (Zygœna leenwenii), Sydney Harbour, North Shore.
6. The Great Kangaroo (Macropus major), Wellington.

Young one taken and thrown out of the pouch by its mother when hard pressed by dogs.

7. The Native Bear (Phascolarctos cinerea), North Shore, Sydney.

Female and young one, the young one just having left its mother's pouch for good.

8. The common bush opossum (Phalanhista vulpina), North Shore, Sydney.

Female and young one, the young one taken from out of its mother's pouch attached to teat.

9. The ring-tail opossum (Phalangista laniginosa), North Shore, Sydney.

Female and two young ones, the young just left the mother's pouch and almost able to take care of themselves.

10. The Great Flying Phalanger, or Great Black Flying Squirrel, male (Phetaurista taguanoides), North Shore, Sydney.
11. The Flying Squirrel like Belideus, or Flying Sugar Squirrel, female (Belideus sciureus), North Shore, Sydney.
12. The Native Cat (Dasyurus viverrimus), North Shore, Sydney.

COMMISSIONERS FOR NEW SOUTH WALES.—Exhibits procured for the Commission by the Trustees of the Australian Museum, Sydney.

Group I.—Paradise and Bower Birds, &c.

Ælurœdus crassirostris ♂ } Cat
Do. do. ♀ } Birds.
2 Ptilonorhynchus holosericeus ♂ ♂
—Satin Birds.
Sericulus melinus ♂ } Regent Bird.
Do. do. ♂ }
Pitta strepitans ♀ } Dragoon Bird.
Do. do. ♂ }

Orecsincla lunulata ♀ } Brush
Do. do. ♂ } Thrush.
Mimeta viridis ♂ } Green Oriole.
Do. do. ♀ }
Ptilorhis paradisea ♀ }
Do. do. ♀ }
Do. do. ♂ } Rifle Birds.
Do. do. ♂ }

Group II.—Honey-eaters.

Anthochæra melivora ♂
Do. carunculata ♂
Do. do. ♀
Meliphaga phrygia ♀
Do. do. ♂
Meliornis sericea ♂
Do. novæ hollandiæ ♀
Do. do. ♂
Do. sericea ♂
Myzomela sanguinolenta ♂
Do. do. ♀
Do. do. ♂
Melithreptus lunulatus ♂
Do. do. ♀
Ptilotis fusca ♀

Ptilotis fusca ♀
Do. chrysops ♂
Do. do. ♂
Do. lewinii.
Do. auricomis ♀
Melithreptus brevirostris.
Acanthorynchus tenuirostris.
Tropidorhynchus buceroides ♂
Philemon citreogularis ♂
Plectorhyncha lanceolata ♀
Myzantha garrula ♂
Do. do. ♀
Ptilotis flavicollis ♂ } Tasmania.
Do. do. ♀ }

Group III.—Owls and Podargi.

Athene boobook ♂
Do. do. ♀

Podargus strigoides ♂
Do. do. ♀

Group IV.—Wood-Swallows and Swallows.

Artamus sordidus ♀
Do. do. ♂
Do. superciliosus ♀
Do. do. ♂

Lagenoplastes ariel.
Do. do.
Hirundo frontalis.

Group V.—Flycatchers.

Rhipidura albiscapa ♂
Do. do. ♀
Monarcha carinata ♂
Do. do. ♀
Myiagra plumbea ♂
Sauloprocta motacilloides ♀

Sauloprocta motacilloides ♀
Gerygone albogularis ♂
Do. do. ♀
Geobasileus chrysorrhous ♂
Do. do. ♀

Group VI.—Pigeons.

Phaps chalcoptera ♂
Do. elegans ♂
Do. do. ♀
2 Chalcophaps chrysochlora
2 Ocyphaps lophotes ♂
Do. do. ♂
2 Geopelia tranquilla ♂ ♀

Ptilopus superbus ♂
Do. do. ♂
2 Do. swainsoni.
Macropygia phasianella ♀
2 Leucosarcia picata.
1 Megaloprepia assimilis

GROUP VII.—LARKS AND EPTHIANURAS, ETC.

Anthus australis ♀
Do. do. ♀
Cincloramphus cantillans ♂
Chthonicola sagittata ♀
Ephthianura albifrons ♂
Do. do. ♂
Ephthianura albifrons ♀
Do. tricolor ♂
Do. do. ♂
Do. aurifrons ♂
Do. do. ♂

GROUP VIII.—TREE-CLIMBERS.

Climacteris leucophœa ♀
Do. erythrops ♂
Do. scandens ♂
Sittella chrysoptera.
Do. do.

GROUP IX.—ROBINS AND THICKHEADS.

Petroica phœnicea ♂
Do. leggii ♂
Do. do. ♀
Eöpsaltria australis ♂
Do. do. ♀
Eöpsaltria chrysorrhous ♂
Do. do. ♀
Pachycephala gutturalis ♂
Do. do. ♀

GROUP X.—KINGFISHERS, BEE-EATERS.

Halcyon sanctus ♂
Do. do.
2 Tanysiptera sylvia.
Merops ornatus ♀
Do. do.

GROUP XI.—PARDALOTES, MALURI, FINCHES, BRISTLE-BIRDS, ETC.

Pardalotus punctatus ♂
Do. affinis ♂—Tasmania.
Do. do. ♂ do.
Do. do. ♀ do.
Origma rubricata ♀
Dicæum hirundinaceum ♂
Amadina guttata ♀
Do. do.
Do. do.
Sphenura brachyptera ♂
Do. do. ♀
Malurus gouldii ♂
Do. do. ♂
Do. lamberti ♂
Do. cyaneus ♂
Do. do. ♂
Do. melanotus ♂

GROUP XII —COCKATOOS AND PARROTS, ETC.

Calyptorhynchus funereus ♀ ♂
Do. do. ♀
Do. leachii ♀
2 Cacatua galerita ♂ ♀
Do. leadbeateri ♀
Do. do. ♂
Do. roseicapilla ♂
Do. do. ♂
Callocephalum galleatum ♂ juv.
Do. do. ♀
Platycercus pallidiceps.
Do. barnardii ♂
Do. do. ♀
Psephotus hæmatonotus ♂
Do. pulcherrimus.
Calopsitta novæ hollandiæ ♂ ♀
Do. do.
Pezoporus formosus.
Toichoglossus novæ hollandiæ ♂ ♀
Do. do.

2 Aprosmictus scapulatus ♂ ♂
2 Do. erythropterus ♂ ♂
Platycercus penantii ♂
Do. do. ♀
Do. eximius ♂
Do. do. ♀
Trichoglossus concinnus ♂
Do. ♀
Do. pusillus ♂
Do. do. ♀
Melopsittacus undulatus ♂
2 Do. do. ♂

GROUP XIII.

Pomatostomus temporalis ♂
Do. do. ♀
Struthidea cinerea ♂
Do. do. ♂
Graucalus melanops.
Do. mentalis.
Do. do. ♀
Campephaga tricolor ♂
Do. do. ♀
Do. leucomelæna ♂
Falcunculus frontatus ♂
Do do. ♀
Grallina picata.
Psophodes crepitans.
Diomedea exülans—Albatross.
Do. melanophrys do.
Pelecanus conspicillatus—Pelican.
Cygnus atrata—Black swan.
Dromaius novæ hollandiæ—Emu.

GROUP XIV.—LYRE BIRDS.

Menura superba ♂ ♀
Menura alberti ♂

GROUP XV.—SNIPE, PLOVERS, &c.

2 Scolopax Australis
2 Schœnedus Australis.
2 Charadrius xanthocheilus.
1 Hiaticula nigrifrons.
1 Lobivanellus lobatus.
3 Cladorhynchus pectoralis.
1 Totanus griseopygius.

GROUP XVI.—RAIL AND QUAIL.

2 Rallus pectoralis.
2 Synoicus Australis.
2 Excalfatoria sinensis.
2 Turnix melanogaster.
1 Do. varius.
2 Coturnix pectoralis.

MAMMALS.

Macropus major ♀
Halmaturus ruficollis ♂
Do do ♀
Do bennettii ♀—Tasmania
} Kangaroos.
Phascolarctos cinerea—Native bear.
Phalangista fuliginosa, Tasmania
Do viverrina ♀ do
} Opossums.
Phascolomys wombat, do —Wombat.
Pteropus poliocephalus
Do do
} Flying-fox.
Dasyurus maculatus—The spotted Dasyure.
Phascogale penicillata—The Phascogale.
Bettongia Greyii, Grey's Jerboa.
1 Ornithorhynchus paradoxus—The duck-billed platypus.
1 Echidna hystrix—The spiny ant-eater.

REPTILES (IN TWO GROUPS).

The frilled lizard (Chlamydosaurus Kingii).
Cyclodus gigas.
Egernia Cunninghamii.
Do do (head of).
Tropidolepisma majus.
Grammatophora muricata.
Grammataphora barbata.
Trazydosaurus rugosus.
Lophognathus Gilberti.
Hydrosaurus varius.
Phyllurus myliusii.
Moloch horridus.
Hinulia elegans.
Lialis punctulatus.
Morelia spilotes (diamond snake).
Morelia variegata (carpet snake).
Pseudechis porphyriacus (black snake).
Hoplocephalus curtus (brown-banded snake).
Acanthophis antarctica (death-adder).
Dendrophis punctulata (green tree-snake).
Vermicella annulata (black and white ringed snake).
Diemenia superciliosa (young brown snake).
Typhlops ruppelli (blind snake).
Brachysoma diadema.
Crocodilus biporcatus.
Hinulia elegans.

FISHES.

Schnapper (Pagrus unicolor).
Mullet (Mugil sp).
Flathead (Platycephalus fuscus).
Salmon (Arripis salar).
Jewfish (Cisna Antarctica).
Blackfish (Girella, sp).
Whiting (Sillago maculata).
Nannegai (Beryx affinis).
Carp (Chilodactylus fuscus).
Black bream (Chrysophrys sarba).
Murray River crayfish (Astacopsis serrata).
Southern rock lobster (Palinurus Hugelii).
Neptunus pelagicus.
Scylla serrata.

TOST & ROHU, Naturalists, Taxidermists, Furriers, and Tanners, 60, William Street, and 112, Oxford Street, Sydney.

Lyre bird (male) (Menura superba).
Lyre bird (female) „ „
Leadbeater (male) (Calyptorhynchus leadbeateri).
Leadbeater (female) „ „
Regent bird (male). Sericulus melinus.
Regent bird (female) „ „
Blue Mountainer (male) (Trichoglossus Novæ Hollandiæ).
Blue Mountainer (female) „ „
Shell parrakeet (male) (Trichoglossus chlorolepidotus).
Shell parrakeet (female) „ „
Mock regent (male) (Moliphaga phrygia).
Mock regent (female) „ „

Rosella (male) (Platycercus eximius).
Rosella (female) „ „
Red-cheeked parrakeet (male) (Trichoglossus pusillus).
Red-cheeked parrakeet (female) „ „
Rifle bird (male) (Ptilorhis Paradisea).
Regent Bird (male) (Sericulus melinus).
King parrot (male) (Aprosmictus scapulatus).
Crimson wing (male) (Ptistes erythropterus).
Gang-gang (male) (Collocephalon galeatum).
Greenleak (male) (Polytelis barrabandi).
King lory (male).
Pitta (male) (Pitta strepitans).
Magpie (male) (Gymnorhina tibicen).
King-fisher (male) (Alycone azurea).
Rockhampton rosella (male) (Platycercus pallidiceps).
Magnificent parrakeet (male) (Psephotus multicolor).
Crested shrike (male) (Falcunculus frontatus).
Black cap (male) (Pachycephala gutturalis).
Wag-tail (male) Sauloprocta motacilloides).

CLASS CXLIX.—OTHER NATURAL HISTORY SPECIMENS.

BAILEY & KERR. 111, King Street, Sydney.—Mounted and unmounted specimens of ferns.

CUMMING, LEXANDER, Secretary to N.S.W. Commission, Sydney.—Collection of Australian and New Zealand ferns, mounted in 24 sheets, by the late Mr. H. H. Field of Sydney. (Non-competitive.)

WILSON, FFRIATT S., Lawson, Blue Mountains.
12 Tanned snake skins.
2 Skins, diamond snake, (*Morelia spilotes*).
2 Skins, brownbanded or tiger snake, (*Hoplocephalus curtus*).
2 Skins, brown snake, (*Diemenia superciliosas*).
2 Skins, black snake, (*Pseudechis porphyriacus*).

SOUTH AUSTRALIA.

SECTION A.—FINE ARTS.

CLASSES I TO VI.

HAMMER & Co., Adelaide.—Photographs, opal glass pictures.
S. W. SWEET, Adelaide.—Landscape photographs.
M. W. GREENFELD, Norwood.—Photographs, paintings from photographs.
GEORGE FREEMAN, Adelaide.—Photographs.
S. A. INSTITUTE, Adelaide.—Photographs.
FRASER S. CRAWFORD, Adelaide.—Photographs.
E. SPILLER (Government Printer), Adelaide.—Photo-lithographs.
PAUL FOELSCHE, Northern Territory, S. A.—Photographs.
MRS. GEORGE GRAY, North Adelaide.—Models of fruits in wax.
SOUTH AUSTRALIAN COMMITTEE, Adelaide.—Models of fruits in wax.

SECTION B.—EDUCATION AND APPLICATION OF THE LIBERAL ARTS.

CLASSES VII TO XV.

G. W. GOYDER (Surveyor-General), Adelaide.—Maps.
CONIGRAVE & COLLISON, Adelaide.—Drawings and maps.
BRADDOCK & SONS, Adelaide.—Printing inks.
E. SPILLER (Government Printer), Adelaide.—Lithography, letter-press printing, book-binding, account-book ruling, chromo-lithography.
J. A. HARTLEY, Education Department, Adelaide.—School maps.
H. C. MAIS, C.E., Engineer-in-Chief, Adelaide.—Working drawings and photos. of S. A. Railways.

SECTION C.—HEALTH.

CLASSES XVI TO XXII.

BRADDOCK & SONS, Adelaide.—Eucalpytus oil.
CHARLES CROSS, Gawler.—Medicinal products, indigestion powders, indigestion drops.

SECTION D.—FURNITURE AND OTHER OBJECTS FOR THE USE OR DECORATION OF DWELLING HOUSES AND OTHER BUILDINGS.

CLASSES XXIII TO XXXVII.

KAPUNDA MARBLE AND BUILDING COMPANY, Kapunda.—Marble.
KAPUNDA No. 1 MARBLE COMPANY, Kapunda.—Marble.
SIBLEY'S MARBLE COMPANY, Angaston.—Marble.
THOMPSON PRIEST, Mintaro, S.A.—Flagging slate.
HUGH FRASER, Adelaide.—Carved mantelpiece.

SECTION E.—OBJECTS OF PERSONAL WEAR OR USE.

CLASSES XXXVIII TO LII.

V. NELSON, Adelaide.—Fancy-work.
MRS. G. J. NELSON, Adelaide.—Ornaments from seeds.

SECTION F.—RAW PRODUCTS AND MANUFACTURES FROM PRODUCTS NOT INCLUDED IN OTHER SECTIONS.

CLASSES LIII TO LXXXI.

BRADDOCK & SONS, Adelaide.—Benzole, gold lacquer, Brunswick black.
SOUTH AUSTRALIAN SALT PLASTER, AND MANURE COMPANY, Yorketown.—Refined salt, coarse salt, gypsum in crystal, plaster of Paris, plaster ornaments.
THE S. A. SALT COMPANY, Snowtown.—Fine dried salt, fine undried salt, coarse salt, gypsum "selenite," plaster of Paris.
WILLIAM HAINES, M.P., Teatree Gully, Adelaide.—Kaoline (pipeclay).
F. PFLAUM & Co., Blumberg.—Mimosa bark.
SAMUEL DAVENPORT, Beaumont.—Olive oil.
G. L. BARNARD, Walkerville.—Olive oil, refined olive oil.
ANDERSON & ROBERTSON, Adelaide.—Olives, olive oil, olive cake, olive hair oil, olive oil blacking, olive machinery oil, salad oil, new dried soap.
J. G. PITCHER, Adelaide.—Pearl shells.
MAURICE HOLTZE, Panie Bay, Northern Territory, S.A.—Peanut oil, teal oil, pine fibre, rhea fibre, India-rubber tree, upland cotton, uncultivated cotton, indigo plant rhea plant.
KNOTT & MEYDER, Howley, Northern Territory, S.A.—Uncultivated cotton.
G. R. MCWINN, ESQ. (Acting Government Resident), Northern Territory, S.A.—Collection of indigenous woods.

A Collection of Indigenous Woods.

Botanical Name.	Local Name.
Acacia (spec.)	
.....	"Tecoma."
.....	"Cypress pine."
.....	"White mangrove."
.....	"Prickly ash."
.....	"Blood-wood."
.....	"Paper bark."
Sterculia (spec.)	"Milk wood."
Eucalyptus (spec.)	
Eucalyptus (spec.)	
.....	"Iron bark."
.....	"Apple tree."
Eucalyptus (spec.)	
Eucalyptus (spec.)	

CORPORATION OF COPPER MINES OF S. A., Adelaide.—Copper ores.
CAPTAIN HANCOCK, Moonta.—Copper ores.
THE PROPRIETORS OF THE WALLAROO MINES, LIMITED, Wallaroo.—Trophy of copper in cakes and ingots.
ENGLISH AND AUSTRALIAN COPPER COMPANY, LIMITED, Port Adelaide.—Copper in cakes and ingots, refined copper worked into fancy designs.

JOHN SIMEON, Adelaide.—Silver lead ore.
UMBERUMBERKA SILVER LEAD MINING COMPANY, South Australia.—Silver lead ore.
BAROSSA FLAX MILLING COMPANY, Lyndoch Valley.—Flax.
THE HON. J. LANGDON PARSONS, Minister of Education, Adelaide.—Collection of mineral specimens from the Northern Territory.
OLAF JANSEN, Pine Creek, Northern Territory.—Auriferous quartz.
Specimens (two) of auriferous quartz from Eleanor Reef, Pine Creek. Thickness of reef from 6 in. to 2 ft. The last 200 tons of stone crushed averaged 4 oz. of gold to the ton.
Collection of small specimens of auriferous quartz from Eleanor Reef.
Sample of auriferous quartz from Telegraph Reef, Pine Creek. Depth of workings 40 ft.; thickness of reef 20 in.; average yield, 1 oz. 3 dwt. of gold to the ton.
THE ALTA GOLD MINING UNION, Northern Territory, S. A.—Auriferous quartz.
Twenty-eight specimens of auriferous quartz from No. 5 North Union Reef. Thickness 1 ft. The last crushing of 140 tons yielded 980 oz. of gold.
Sample of auriferous quartz from No. 4 North Union. Thickness of reef, from 3 in. to 12 in. Average yield, 6 oz. of gold to the ton.
Three specimens of auriferous quartz from No. 1 South Lady Alice Reef. Average yield, 1 oz. 8 dwt. of gold to the ton.
PING QUE, Union, Northern Territory, S.A.—Auriferous quartz.
Seven specimens of auriferous quartz from No 4 South Union Reef. This reef is vertical, and 8 ft. in thickness. Average yield 1 oz. 2 dwt. of gold to the ton.
STEPHEN MCINTYRE, Senders Hill, Northern Territory, S. A.—Auriferous quartz.
Four specimens of auriferous quartz. Reef 2 ft. in thickness. Average yield 1 oz. 6 dwt. of gold to the ton.
EXTENDED UNION GOLD MINING COMPANY, Northern Territory, S. A.—Auriferous quartz.
Three specimens of auriferous quartz from No. 3 North Extended Union. Reef flat, 20 in. wide. Average yield 21 oz. of gold to the ton.
ARNHEIM GOLD MINING COMPANY, Northern Territory, S.A.—Auriferous quartz.
Five specimens of auriferous quartz from Spring Hill Reef, The Twelve Mile, McKinlay River, 120 miles inland. Vertical reef 7 ft. to 9 ft. in thickness, sunk 72 ft., and opened out to a level of 104 ft. 1,070 tons crushed averaged 1 oz. 8 dwt. to the ton.
D. B. TENNANT, Northern Territory, S. A.—Auriferous quartz.
Two samples of auriferous quartz from the Clifton Reef. Thickness, 2 ft.; average yield, 6 oz. of gold to the ton.
Five samples of auriferous quartz from North Clifton Reef. Thickness, 1 ft. 6 in.; average yield 2 oz. of gold to the ton.
Samples of auriferous earth. From a "mullock" leader varying from 6 in. to 12 in. in thickness. Although the gold is barely visible when the stuff is crushed, it yields over 5 oz. of gold to the ton.
BEETSON BROS., Old Howley, Northern Territory, S.A.—Auriferous quartz.
Collection of auriferous quartz. From reef averaging 22 in. in thickness, and yielding 3½ oz. of gold to the ton. Samples of tailings believed to retain a large quantity of gold. Also surface specimens of copper ore.
J. H. LAWRIE, Northern Territory, S. A.—Auriferous quartz.
Eight small specimens of auriferous quartz. From a reef adjoining the Arnheim Company's property at Spring Hill, McKinlay River. This reef has just been opened, and presents indications of being exceedingly rich.
GROVE HILL GOLD MINING COMPANY, Northern Territory, S. A.—Auriferous quartz.
Specimens of auriferous quartz. From the Margaret and Yam Creek claim (120 miles inland from Palmerston).
The Margaret specimens were taken from about six tons of quartz, which, when crushed, yielded over 220oz. of gold. Those from Yam Creek gave 5 oz. to the ton. After the extraction of all the free gold from the stone by the usual process, the arsenical pyrites gave by assay from 150 oz. to 185 oz. of gold to the ton.

THE HON. J. LANGDON PARSONS, Minister of Education, Adelaide.—Alluvial gold.
DANIELS & Co., Mount Wells, Northern Territory, S. A.—Tin ores.
Large block of tin ore taken from the surface, and six samples of lode and one of stream tin. A large number of lodes have been opened out, and the Mount bids fair to show, with further labour and prospecting, that its whole mass is interstratified with stanniferous deposits.
CRUIKSHANK AND BARRET, Howley, Northern Territory, S.A.—Tin ores. Samples of tin in coarse granite. The lode is 25 feet wide, standing 7 feet above the surrounding surface, and is traceable for a long distance. Assay test gives 37 per cent. of tin.
MOUNT WELLS TIN MINING COMPANY, Northern Territory, S.A.—Tin ores. Seven samples of tin ore from the Company's property at Mount Wells (100 miles inland).
Specimen A taken from ground where there is a regular network of lodes, varying from 1 foot 6 inches to 3 feet in thickness. Samples of stream tin from land north of Mount Wells.
EMIL MARKER & Co., Pine Creek, Northern Territory, S.A.—Copper ores. Eight specimens of copper ore from leased property on Copperfield Creek, 146 miles inland, near Pine Creek.
There is a large outcrop of copper at the surface, from 4 feet to 5 feet in thickness and traceable for a long distance.
ADELAIDE TIN MINING COMPANY, Northern Territory, S.A.—Silver lead ore. Six specimens of silver lead ore from the No. 2 Adelaide Company's property at Snadden's Creek, 115 miles inland. Lode about 2 feet in thickness, with a shaft shunk on it about 20 feet deep.
THE HON. JOHN CROZIER, Adelaide.—Wool.
THE HON. G. C. HAWKER, Bungaree, S.A.—Wool.
J. H. ANGAS, Collingrove.—Wool.
THE HON. A. B. MURRAY, Magill.—Wool.
SANDERS, JAMES & Co., Canowie.—Wool.
E. W. PITTS, Dry Creek, S. A.—Wool.
JOHN MURRAY, Mount Crawford, S.A.—Wool.
WM. CROZIER, Moorna Station, River Murray.—Wool.
T. S. PORTER, O'Halloran Hill.—Wool.
DUFFIELD & MAKIN, Koonoona Station, S.A.—Wool.
W. H. BURFORD & SONS, Adelaide.—Fancy soaps, soaps, tallow, oil.

SECTION G.—MACHINERY AND IMPLEMENTS, MEANS OF TRANSPORT, APPLIANCES AND PROCESSES USED IN THE COMMON ARTS AND INDUSTRIES.

CLASSES LXXXII TO CIX.

T. L. COTTRELL, Adelaide.—C-spring barouche.
CHAMBER OF MANUFACTURES, Adelaide.—Model of tram-car.
A. SIMPSON & SON, Adelaide.—Fire-proof safe, japanned toilet ware, stamped tinware, ice-water urns.
DUNCAN & FRASER, Adelaide.—Sporting dog-cart.
CLARKE BROTHERS, Adelaide.—Four-wheeled drag.
THOS. BARLOW & SONS, Adelaide.—Wagonette.
JAMES DUNCAN, Adelaide.—Model of patented invention for change of gauge on railways.
CONIGRAVE & COLLISON, Adelaide.—Hullett's combination truck for running on two different gauges of railway without any manipulation. The model is constructed for 3 ft. 6 in. and 5 ft. 3 in. gauges used in Australia.

SECTION H.—FOOD PRODUCTS.

CLASSES CX TO CXXXVI.

ALEX. MURRAY & SON, Craiglee, Coromandel Valley.—Biscuits, jams, and jellies.
D. & J. FOTHERINGHAM, Gawler.—Sauces.
EDWARD HAGUE, Angaston.—Dried currants.
THOS. HARDY, Bankside.—Dried raisins.
ANDERSON & ROBERTSON, Adelaide.—Vinegar.
C. MARGETTS, Parkside.—Tomato sauce.
BARTON & Co., Hackney.—Tomato sauce, pickles, curry-powder, condiments.
MAGAREY & Co., Hindmarsh.—Flour.
THE ADELAIDE MILLING AND MERCANTILE COMPANY, Adelaide.—Flour.
THE AERATED BREAD COMPANY, Adelaide.—Biscuits.
L. CONRAD, Adelaide.—Preserved meats.
THE AUSTRALIAN FRUIT AND VEGETABLE PRESERVING COMPANY, Kent Town, S.A.—Jams and jellies, preserved fruits, preserved vegetables.
H. B. HANTON & Co., Fullarton, S.A.—Jams and jellies, tomato sauce.
THE ANGASTON PRESERVING COMPANY, Angaston, S.A.—Fruits preserved in syrup.
P. R. ALLEN & Co., Daly River, Northern Territory, S.A.—Sugarcane.
AH DIN CHIN, Margaret River, Northern Territory, S.A.—Sugarcane.
THE DE LISSAVILLE SUGAR COMPANY, Northern Territory, S.A.—Sugarcane: estimated to yield three tons of sugar per acre.—Sugar: open-pan evaporation and concentration, grown on very red ironstone land. From eight months' ratoon canes.
MAURICE HOLTZE, Fannie Bay, Northern Territory, S.A.—Preserved banana and safflower, tapioca, mandioca, arrowroot, pulse, dhol, rice, maize, pea-nuts, cassava root.
E. C. HUGHES, S.M., North Adelaide.—Trepang.
THOMAS HARDY, Bankside, S.A.—Wines.
B. SEPPELT, Seppeltsfield, S.A.—Wines.
THE AULDANA VINEYARD PROPRIETORS (W. P. Auld, Manager).—Wines.
SAMUEL DAVENPORT, Beaumont, S. A.—Wines.
SIR THOMAS ELDER, Birksgate. S. A.—Wines.
THE HON. JNO. CROZIER, Oaklands, S. A.—Wines.
PENFOLD & Co., The Grange, Magill, S. A.—Wines.
WM. GILBERT, Pewsey Vale, S. A.—Wines.
WM. JACOBS, Mooroorоo, S. A.—Wines.
C. B. YOUNG, Walkerville.—Wines.
S. SMITH & SON, Yalumba, Angaston, S. A.—Wines.
E. SALTER & SON, Saltram, Angaston, S. A.—Wines.
PHILLIPSON BROTHERS, Adelaide.—Ale and stout.

SECTION I.—AGRICULTURE AND HORTICULTURE.

CLASSES CXXXVII TO CXLIII.

J. G. RAMSAY & Co., Mount Barker.—*Stripping machine.*
A. W. DOBBIE, Adelaide.—*Hand-power seed-sower, horse-power seed-sower.*
J. W. STOTT & SON, Alma.—*Stump and stone-jumping plough.*
J. MARTIN & SON, Gawler.—*Tenoning machine.*
MELLOR BROTHERS, Adelaide, Kapunda, and Quorn.—Stripping machines, stump plough.

THOMAS ASHBY, Clare, S. A.—Tuscan wheat, Lion defiance wheat.
JOSEPH THYER, Belalie, S. A.—Purple wheat.
ALLAN BELL, Mount Barker, S. A.—White Tuscan wheat, Purple-straw wheat.
D. M. MCFARLANE, Port Lincoln, S. A.—White Tuscan wheat.
J. H. ANGAS, Collingrove, S. A.—Purple-straw wheat, White Tuscan wheat, White lammas wheat, skinless oats.
E. & W. HACKETT, Adelaide.—White Tuscan wheat, skinless barley, white oats.
S. A. SALT, PLASTER, AND MANURE CO., Yorketown.—Gypsum manure.

SECTION K.—NATURAL HISTORY, &c.

CLASSES CXLIV TO CXLIX.

SOUTH AUSTRALIAN INSTITUTE, Adelaide.—Stuffed specimens of emu and kangaroo.
DR. HAACKE, Adelaide.—Specimens of natural history.
W. MALCOLM, Gawler.—Ostrich-feathers, ostrich eggs.
R. E. MINCHIN, Adelaide.—Live emus, emu eggs.
THOMAS BOWMAN, Campbell Park, Lake Albert, S. A.—Ostrich eggs.

TASMANIA.

SECTION A.—FINE ARTS.

CLASSES I TO VI.

ANDREWS, MRS. M. A., 73, Liverpool Street, Hobart.—Wax models of fruits grown in Tasmania.
Pears—Bon Cretian, Bergamot, Winter Nealis.
Apples—Crows Egg, Alexandra, Stermer Pippin, Prince Alfred, Pearmain.
Grapes—Black Hambro.
Peach—Lady Palmerston.
Sundries—Oranges, lemons, loquats, bananas.
ANSON BROTHERS—Elizabeth Street, Hobart.—Photographs.
BANK OF VAN DIEMEN'S LAND, St. John Street, Launceston.—Photograph of banking offices.
BOYD AND CO., Elizabeth Street, Launceston.—Photograph of boot and shoe factory, with employés.
BURROWES, W. H. CARL., Brisbane Street, Launceston.—Two oil paintings.
BURROWES, W. AND CO., Brisbane Street, Launceston.—Photograph in opalesque style.
CORBETT THOS., Ephin Road, Launceston.—Photograph of house and grounds.
CORNWALL INSURANCE CO., St. John Street, Launceston.—Photograph of offices.
EVANS, MARIA CAROLINE, 45, Davey Street, Hobart.—Table top painted in oils, Tasmanian native flowers, berries and insects. Oil painting, framed, "Ben Lomond" (height 5,010 feet), from the Buffalo plains, Tasmania.
FORREST, CAPT. HAUGHTON, Hobart.—Oil painting.
HADLEY, JOHN CLAY, Orient Hotel, Murray Street, Hobart.—Large oil painting of the city of Hobart, the capital of Tasmania, from the harbour Sullivan's Cove, Mount Wellington in the background. Painted by Captain Haughton Forrest. For sale, price Rs. 1,500.
HUBBARD, GEORGE, Brisbane Street, Launceston.—Chess-board, table top drawn on Huon pine. Water-color painting.
KOEPPEN, MRS, LOUISE, Murray Street, Hobart.—Models of fruits in wax.
Pears—Wedon Saint German; weight 9lbs.; Winter Nealis, Lady O'Prussia, Prince of Wales, Bon-Cretian, Jenny Lind, Victoria Louise, Napoleon, Albert, Lady Palmerston, Autumn Bergamot, DeLorne.
Apples—Crown Pippin, Alexandra, Scarlet Pearmain, Blue Pearmain, Summer Pearmain, Prescilla, Snow White Lady, Stone Pippin, Crows Eggs, New York Pippin, Gloster Pippin, New Town Pippin, Ladies, Finger, St. Lawrence, Winter Crab, French Crab, Ribston Pippin, Beauty Beatrice, Pomerania, Dragon, Winter Pippin, Prince Alfred, Lemon Orange.
Grapes—Bunch of Muscatels in wax, without glass bulbs 121 berries.
Sundries—Raspberries (Victoria, Trollope, Margaretta, British Queen), almonds, walnuts, oranges, mandarines, lemons, figs, bananas, peaches (Lady Palmerston), apricots (gladstone), cherries, cherry plums, gooseberries, nectarines, Orleans plums, french prunes, yellow gages, green gages, gerkins.
Fruits modelled in soap.
Collection for sale, price Rs. 300.
Painted banner on satin, Arms of the City of Hobart.
Table top of Tasmanian flowers and ferns.
LLOYD, J. GRANT, present residence, Dunedin, New Zealand.—A pair of water-color paintings.
Dawn Effect, Hobart, from the new wharf.
Lake St. Clair, showing Mounts Olympus and Ida. For sale, price Rs. 500.
LOVELL, CLARA HELEN, 96, Argyle Street, Hobart.—Table top painted in oils. Tasmanian native flowers and birds. Price Rs. 90.

MONTGOMERIE, WILLIAM MANNERS, 74, Liverpool Street, Hobart.—Photograph of business premises.

MEREDITH, MRS. LOUISA ANN, Malunnah, Oxford, Tasmania.—Sketch—The Comet of 1882 as seen above the ruins of the burned "Garden Palace," Sydney.

Terra cotta plaques—I "Cherry Ripe."
II Tasmanian fish from nature.
III Ditto ditto.
For sale. Each Rs. 35.

Works on Colonial subjects written and illustrated by the authoress.

Some of my bush friends in Tasmania—native flowers, berries, and insects drawn from life, illustrated in verse and brightly described. This volume is dedicated by Royal command to Her Majesty Queen Victoria.

"Our Island Home" (illustrated). The plates printed in autotype from the author's pencil drawings.

"My Home in Tasmania," a sequel to notes and sketches of New South Wales in Murray's Home and Colonial Library.

Over the Straits.

Loved and Lost.

"Ebba." Grandmamma's Verse Book for young Australia.

Tasmanian friends and foes—feathered, furred, and finned, splendidly illustrated from drawings by the authoress.

NICHOLAS, E. J., Collins Street, Hobart.—Mezzo-tinto photographs.

OSBORNE, J., BISHOP, 76, Murray Street, Hobart.—Crystalograph photography, 3 portraits.

PEDDER, FREDERICK, Superintendent of Police, Hobart.—Photographs of police force.

POSTMASTER-GENERAL, THE HONORABLE, Tasmania.—Collection of all the postage and revenue stamps issued in Tasmania.

PATON, GEORGE, Patterson Street, Launceston.—Statuary, "Playing Draughts at the Farm."

REIBEY, HONORABLE THOMAS.—Photograph of residence, "Entally."

RIES AND BARNETT, Artists, 42, Macquarie Street, Hobart.—Collection of photographs.

SANTIFALLER, J. B.—Specimens of artistic wood carving.

SALISBURY, J. E., Tasmanian Foundry, Launceston.—Photographs of machinery.

SMITH, MARGARET, 106, Elizabeth Street, Hobart.—Very old oil painting, "A Russian General."

STEUTT, MRS. JNO. H., 105, Bathurst Street.—Two crayon pictures, Italian Flower Girl, German Street Singers.

STOCKS, ERNEST D., present residence, Victoria Street, Ballarat.—Water-color painting, "City of Hobart," from near the Kangaroo Bluff Battery.

TAPP, CLARA, Oatlands.—Specimens of copied music, "Rocked in the Cradle of the Deep." Sharp, flat, and natural.

TASMANIA, GOVERNMENT OF.—Collection of photographs of scenery and buildings, &c., in stands of black-wood and Huon pine.

WHERRITT AND MCGUFFIN, 81, Elizabeth Street, Hobart.—Photographs.

SECTION B.—EDUCATION AND APPLICATION OF LIBERAL ARTS.

CLASSES VII TO XV.

AIKENHEAD AND BUTTON, Patterson Street, Launceston.—Specimens of printing files of the *Launceston Examiner* (daily) and *Tasmanian* (weekly) newspapers; Official Hand-Book of Tasmania.

BRICKHILL, JAMES, Patterson Street, Launceston.—File of the *Daily Telegraph* newspaper.

DAVIES, JOSEPH, Beaconsfield.—Sectional and ground plans of the Tasmanian Gold Mining and Quartz Crushing Company's Mine, showing the workings up to 31st June 1883.—Work commenced 12th October 1877. Number of tons of quartz crushed, 78,466. Yield of gold to 4th August 1883, 4 tons 793lbs. Dividends, paid, £277,500.

SCHOTT, HERR J. A., R.A.M.L., Conductor of the Hobart Orchestral Union, Bandmaster, S. T. V. Artillery, and Bandmaster of the Gentleman's Amateur Fillibuster Band (Hobart). Musical compositions.

1. Grand March Triomphale, Souvenir of the Calcutta Exhibition. Piano score and 17 band parts.
2. The Darebin Polka.
3. Dance Fantastique.
4. Song, Ferny Dell.
5. Hobart Exhibition Polka.
6. Hobart Bicycle Galop.

SURVEY DEPARTMENT, HOBART (Hon. N. I. Brown, Minister of Lands).—Two maps of Tasmania. 1 Scale 5 miles to the inch, by Leventhorpe Hall. 1. scale 7½ miles to the inch, by E. P. W. Castray, both drawn under superintendence of C. P. Sprent, Deputy Commissioner of Crown Lands, and Albert Reid, Chief Draftsman.

WALCH, JAMES AND SONS, Macquarie and Liverpool Streets, Hobart.—Ledgers and journals, specimens of commercial book-binding. Walch's Tasmanian Almanac. Do. Literary Intelligencer. Do book catalogue.

WHITTAKER, W. LATROBE. File of the *Devon Herald* newspaper.

Exhibits by Children in Public Schools.

(Particulars certified by the Conductors.)

BREAM CREEK SCHOOL—

Biddulph, Emma, 15 years.	2 Pinafores, 1 pair booties	...	Price Rs.	6
Palmer, Matilda, 12 years.	1 pair booties	...	...	„ 2
Kingston, Louisa, 9 years.	Knitted fringe	...	...	„ 5
Kingston, Constance, 9 years.	Knitted fringe	...	...	„ 5
Kingston Elsie, 11 years.	Crochet lace	...	...	„ 4
Kingston, Emily, 11 years.	Antimacassar	...	...	„ 6

LAUNCESTON SCHOOL—Kidd, Russell, 14 years. Map of Tasmania „ 30

CAMPBELL TOWN SCHOOL—
Blyth, Arthur, 9 years. Map of New Zealand.
Kirkby, Alfred John, 14 years. Book-keeping and map of Tasmania.
Kirkby, Herbert Leslie, copy book, ornamental lettering.

CARRICK SCHOOL—
Dent, Isabel, 12 years. A pair of slippers and wool mats.
Dent, Anna, 11 years. Crochet antimacassar.
Dineen, Charlotte, 12 years. Child's pinafore.
Robertson, Fanny, 9 years. 6 pairs wool boots and wool antimacassar.
Robertson, Virginia, 12 years. Child's pinafore.

SPRING BAY SCHOOL—
Pearse, Frederick, 13 years. Penmanship.

GOLDEN VALLEY SCHOOL—
Bakes, Maria, 13 years. Penmanship.
Harnett, Maurice, 13 years. Do.
Leary, Dennis, 12 years. Do.
Leary, Catherine, 14 years. Do.
Napper, Ada, 11 years. Do.

BRIDGENORTH SCHOOL—
Morrison, Lexy, 13 years. Exercises in dictation.

Morrison, Willina, 10 years. Grammar, arithmetic, penmanship, (3 hands.)
Morrison, Willina, 10 years. Needlework and knitting. Price Rs. 6.

SPRINGFIELD SCHOOL—
Palmer, Arthur, 14 years. Map of Tasmania. Price Rs. 3.

WINKLEIGH SCHOOL—
Kerrison, Percy Charles, 13 years. Tasmanian ferns.
O'Reilly, Mary, 13 years. Ditto.

PONTVILLE SCHOOL—
Butler, John Leslie, 12 years. Map of Tasmania.
Ball, William, 10 years. Ditto.
Littlehales, Herbert, 14 years. Penmanship.
Gard, Amy, 13 years. Map of Tasmania.
Partington, Irene, 13 years. Penmanship.

GLENGARRY SCHOOL—
McLeod, R., Gardner, 16 years. Map of Tasmania, curvelinear drawing, penmanship.
Connolly, Hannah, 13 years. Pair stockings, curvelinear drawing, penmanship.

MACQUARIE ST. SCHOOL, HOBART—
Haney, John, 16 years. Map of Tasmania.
Johnston, Elizabeth, 14 years. Map of Tasmania, antimacassar, 3 pincushions.

Home and Self Taught.

CHISHOLM, FLORENCE, 13 years. Mignardise braid collar.
CHISHOLM, ISABELLA, 11 years. Crewel-work mantelpiece drape.
CHISHOLM, LOUISE, 10 years. One yard crochet lace.
HALLAM, RUTH ESTHER, 13 years, O'Brien's Bridge. Sofa, cushion, beaded on velvet, crochet wool cosey, and knitted holder to match, pair wool mats.

SECTION C.—HEALTH.

CLASSES XVI TO XXII.

DALLY, D. AND CO., St. John Street, Launceston. Liver and blood mixture prepared from a Tasmanian indigenous shrub.
WEAVER AND CO., Chemists, Elizabeth Street, Hobart.—Fluid magnesia, 10 grs. to the ounce.

SECTION D.—FURNITURE AND OTHER OBJECTS FOR THE USE OR DECORATION OF DWELLING-HOUSES OR OTHER BUILDINGS.

CLASSES XXIII TO XXXVII.

BALLARD JAMES, George Street, Launceston.—Collection of useful baskets of Tasmanian willows.
BRIDGES BROTHERS, Elizabeth Street, Hobart.—Collection of useful and ornamental basket-ware from willows cultivated and dressed by the firm in Tasmania.
Triple flower-stand, black and gold.
Paper basket, ditto.

Swing cot, black and gold.
Dog kennel, ditto.
Work table and other articles made from polished Batavian cane and Esparto grass.
Perambulator.
Lady's work-stand.

CAMPBELL, JOHN, Sandhill Pottery, Launceston.—Collection of stone utensils, pottery, porcelain, and earthenware.

CARLSON, P. O., Melville Street, Hobart.—Collection of articles carved in ivory, bone and fancy woods, cruet and egg stand combined of whale's teeth, bullock horn and Tasmanian fancy woods turned and screwed together, 235 pieces. 1 Danish pipe of whale's teeth. Walking sticks and pipes combined. Cotton stand of whale's teeth and Tasmanian dogwood; ditto of whale's teeth and Tasmanian myrtle-wood.

CHESTER, MISS ELIZABETH JANE, St. John Street, Launceston.—Set brackets and work box, made from the cones or seed pods of Tasmanian indigenous trees.

DITCHAM BROTHERS, St. John Street, Launceston.—Mantelpiece of Huon pine, (*Dacrydium Franklinii*), and blackwood (*Acacia Melanoxylon*).

EASTHER, W., Charles Street, Launceston.—Specimen of fret-work "The Lord's Prayer," cut out of Huon pine.

KEPPEN, MRS. LOUISE, 15 Murray Street, Hobart.—Specimens of art cutting in cork with bead-work.

LLOYD, WILLIAM JOSEPH, Elizabeth Street, Hobart.—Chest-of-drawers, with mirror and jewel cases in polished Huon pine, made by an apprentice lad, 16 years of age. For sale, price Rs. 400.

NEWITT, MARY, Charles Street, Launceston.—Three pictures in crewel-work, Tasmanian wild flowers, framed in Tasmanian wood.

PATON, T. AND J., Brisbane Street, Hobart.—Ceiling ornaments used for ventilating ceilings and carrying the warm air out of the room.

THOMPSON, RICHARD B. DEAS, Adelaide Street, Launceston.—Fret-work in Huon pine and oak, wholly executed by hand-saw, brackets, what-not, pipe-rack and frame.

WILMOTT, JOHN, 148, Liverpool Street, Hobart.—2 Clocks in fret-work of Huon pine.

SECTION E.—FABRICS, INCLUDING APPAREL, TOILET REQUISITES AND OTHER OBJECTS OF PERSONAL WEAR OR USE.

CLASSES XXXVIII TO LII.

ANDREWS, MRS. MARY ANN, 73, Liverpool Street, Hobart.—Hand-made pocket handkerchief in honiton lace. Price Rs. 70.
Two brackets in crewel-work.
Pine painted whatnot, Tasmanian flowers.
Table top in spatterie fern-work. Price Rs. 50.

BOYD & CO., Elizabeth Street, Launceston.—Collection of boots, shoes, and slippers.

CHESTER, MISS FLORENCE MARIA, St. John Street, Launceston.—Macrame and crewel work.

CHESTER, MRS. JANE, St. John Street, Launceston.—Artistic fancy-work.

CLIFFORD, MISS HELLEN, 198, Liverpool Street, Hobart.—Fancy-work.

HACK, FREDRICK, New Norfolk.—Knitted wool carriage rug, weight 4 lbs. Price Rs. 30.

HALLAM, EMILY JANE, O'Brien's Bridge.—Spatterie table and what-not, Tasmanian ferns on Tasmanian wood. Shade of Tasmanian flowers, handwork in Berlin wood. Price Rs. 70.

HATTON & LAWS, Chemists, Charles Street, Launceston.—Tasmanian perfume Corro Linn, and toilet requisites.

JOHNSTON, MRS. MARY ANN, 90, Elizabeth Street, Hobart.—One lady's pic-nic or garden sunshade. One child's ditto (invented by the exhibitor).

JOHNSTON, MRS. J., Hobart.—Shade of wool flowers.

KIDD, JESSIE R., George Street, Launceston.—Fancy-work.

KIEPPEN, MRS. LOUISE, 15, Murray Street, Hobart.—Samples of fancy-work in hair; 125 platings in glass case; name in satin-stitch in handkerchief; ladies' and children's apparel.

MATHER, J. B. & SONS, 90, Liverpool Street, Hobart.—Collection of hats and caps, with illustrations of the manufacture.

MILLER, ANDREW PATON, Pharmaceutical Chemist, Liverpool and Murray Street, Hobart.—Large glass show case of perfume, known as "Tasma," distilled from Tasmanian wild flowers. For sale.

NEWITT, MARY, Charles Street, Launceston.—Three pictures in Tasmanian flowers, framed in Tasmanian woods.

NEWITT, ELIZA S., Charles Street, Launceston. Artistic fancy work.

NEWITT, EMILY H., 76, Murray Street, Hobart.—Tea cosy in wool work lined with silk. Crewel-work by hand on satin.

Banner screens. Tasmanian flowers on satin. Swan on satin worked by hand. Tasmanian coat of arms in crewels on silk, worked by hand.

NEWITT, ELIZA S. M., Sorell.—Crochet work in wool.

NEWITT, AGNES, E. C., Sorell.—Knitting in wool by hand.

NEWITT, MRS. E. C., Orielton, Sorell.—Patchwork quilt.

PERKINS AND NEPHEW, Liverpool Street, Hobart.—Large glass case of bridal and other apparel for ladies and children, with wax figures. (The apparel guaranteed made on the premises.) For sale.

ROSS, JAMES CAVE, Latrobe.—Ornamental work.

SMITH, CATHERINE JULIA, Old Wharf, Hobart.—Fancy work made by hand.

Lambrequin of Tasmanian native flowers. Sections 1 and 7, native clematis (*clematis coriacea*), purple berries (*Billardiera longiflora*). Section 2, silver wattle (*Acacia dealbata*). Sections 3 and 5, Austral olives (*Notelæa ligustrina*), coral pea (*Kennedia prostrata*). Section 4, turquoise blue berries (*Drymophila cyanocarpa*), Waratah (*Telopea truncata*), green native fuschia (*correa Laurenciana*). Fern. Section 6, blue gum (*Eucalyptus globulus*). For sale. Price Rs. 150.

Picture in frame, Tasmanian native flowers. Price Rs. 130.

Smoking cap and slippers, ditto. Price Rs. 100.

STEVENS, ADA, 47, Macquarie Street, Hobart.—Screen in arascene work by hand. For sale. Price Rs. 500.

STANFIELD ADA, Glenorchy, near Hobart.—Ladies' handworked lace, silk patchwork quilt for child's cot.

STANFIELD, MYRA, Glenorchy, near Hobart.—Macrame lace work.

STANFIELD, NELLIE, Glenorchy, near Hobart.—Crewel smoking cap in wool.

STANFIELD, LILLIE G., Glenorchy, near Hobart.—Macrame lace.

WEBSTER, MARY, Elizabeth Street, Hobart.—Fancy work.

WHITE, MISS FRANCIS, Byron Street, Sandy Bay.—Two satin cushions, design willow pattern plate. Two silk aprons, Tasmanian flora.

WILLIAMS, F. & J., 73, Collins Street, Hobart.—Boot and shoe uppers and slippers.

SECTION F.—RAW PRODUCTS AND MANUFACTURES FROM PRODUCTS NOT INCLUDED IN OTHER SECTIONS.

CLASSES LIII TO LXXXI.

ABBOTT, FRANCIS JUNIOR, Superintendent, Public Gardens, Hobart.—Collection of fern fronds. Seeds of indigenous trees.

ARCHER CHARLES, Verwood Ross.—Four skirted fleeces, pure Saxon merino wool from 2 and 4-tooth sheep; growth about 365 days. Hot-water and spout washed with bar soap and potash. Sheep, ordinary bush run, without artificial feed. Stock originally from flocks of D. Taylor, Esq., and rams from flocks of Messrs. W. Gibson and Son and Messrs Parramore.

AH CATT, JAMES, & Co., St. John Street, Launceston.—Tobacco and cigars manufactured by Exhibitors from leaf grown in Northern Tasmania.

BULMAN PETER, Waverley Woolen Mills, near Launceston.—Samples woolen cloth and yarns.

BOYD & Co., Elizabeth Street, Launceston.—Dressed wallaby skins.

BEN LOMOND TIN MINING COMPANY,—Fingal specimens of tin ore.

BANGOR SLATE QUARRY COMPANY, Piper's River.—Slate slabs and roofing slates.

BARBER, GEORGE, Latrobe.—Lead ore from Mount Claude.

BRIDGES, BROS., Elizabeth Street, Hobart.—Tasmanian grown willows.

BELBIN, WILLIAM, M.H.A., Mayor of the City of Hobart.—Board illustrative of Tasmanian ornamental woods. She Oak (*Casuarina quadrivalvis*), Red Pine, Peppermint (*Eucalyptus amygdalina*), Blue Gum, (*Eucalyptus globulus*), Pencil Cedar, Honeysuckle (*Banksia Australis*), Myrtle (*Fagus Cunninghami*), Tea Tree (*Melaleuca ericæ-folia*), White Wattle (*Acacia dealbata*), Sassafras, Blackwood (*Acacia melanoxylon*), He Oak (*Casuarina suberosa*), Native Cherry Tree (*Exocarpus Cupressi-forma*), Silver Wattle (*A'dealbata*), Stringy Bark (*Eucalyptus gigantea*), Musk Wood (*Eurybia argophylla*), *Light Wood*, (*var of Acacia Melanoxylon*), Huon Pine (*Dacrydium Franklinii*).

CROOKES, GEORGE, Latrobe.—Manufactured tin ware.

CHERRY, ARCHIBALD W., Latrobe.—Lead ore from Mount Claude.

* EXECUTIVE COMMISSIONER FOR TASMANIA.—Samples of building sandstone.
From Tea Tree, near Brighton (on the main line railway), Shields Quarry.
From Jas. Gregory's Quarry at Bridgewater, near Hobart.
From John Gillon's Quarry, Kangaroo Point, near Hobart.
Ditto ditto.
Ditto ditto.
From Quarry on Stokell's Estate at Cambridge, near Hobart.
Grindstone from Kangaroo Point Quarry.
From R. Robinson's, Okehampton Quarry, Spring Bay, East Coast of Tasmania.

EXECUTIVE COMMISSIONER FOR TASMANIA.—Collection of ornamental woods in slabs and cubes.

1.	Pencil cedar	(*athrotasis selaginordes*)	feather figured.
2.	Do.	(do. *var.*)	figured.
3.	Do.	(do. *var.*)	plain.
4.	Light wood	(*acacia melanoxylon var.*)	do.
5.	Light wood	(ditto)	figured.
6.	Black wood	(ditto)	figured.
7.	Black wood	(ditto)	plain.
8.	Myrtle wood	(*Fagus Cunninghami*)	plain.
9.	Do.	(ditto)	bird's-eye.
10.	Myrtle wood	(ditto)	curly.
11.	Musk wood	(*Eurybia argophylla*)	bird's-eye.
12.	Musk wood	(ditto)	plain.
13.	Pine wood	(*Dacrydium Franklinii*)	do
14.	Do.	(ditto *var.*)	bird's eye.
15.	She oak	(*Casuarina quadrivalvis*)	plain.
16.	Blue gum	(*Eucalyptus globulus*)	curly.
17.	Do.	(ditto)	plain.

* Nearly all the banks and public buildings of Hobart and the façades of many of the finest buildings in the city of Melbourne, Victoria, are constructed of Tasmania free-stone.

18. Stringy bark (*Eucalyptus gigantea*) plain.
19. Do. (ditto) curly.
20 Do. (ditto) figured.
21. Cherry Tree wood (*Exocarpus cupressi formis*) plain.
22. Tea Tree wood.
23. Iron wood (*Notelea ligustrina*).
24. Pine knot (*Dacrydium Franklinii*).
25. Yellow wood.
26. White myrtle (*Var. Fagus Cunninghami*) curly.

also small slabs showing 23 varieties of Tasmanian woods, named, in a Huon pine box, embracing all the above. Prepared by R. M. Johnston, F.R.S.

CRESSWELL, C. H. C., Murray Street, Hobart.—Collection of seeds of indigenous trees and shrubs (named).

CLANCY, GEORGE, Charles Street, Launceston.—Willows grown near Launceston.

DONNELLY, W. J., Collins Street, Hobart.—Specimens of bark and tanning material.

Specimens of native woods.

DALLY, JOHN, Beaconsfield, River Tamar.—Limestone and minerals.

FAIRLAM, R. C., Latrobe.—Slab of Red Myrtle (*Fagus Cunninghami*), polished and showing the bark.

FISHER AND FACEY, Wharf Hobart.—Railway sleepers.

GARDNER, ROBERT, St. John Street, Launceston.—Four bottles of oil of the Sooty Petrel, native name Yola Bird.

GANNON, JOHN.—Avoca minerals.

GIBSON, W. H., Fairfield, Ross.—Merino wool in fleeces.

GADSBY, WILLIAM, Latrobe.—Specimens of Blackwood timber.

GLOVER, CHARLES A., Franklin, Huon.—Collection of veneers from Tasmanian woods. Aromatic barks and resins.

GRUBB BROTHERS, Wharf Hobart.—Chopped, ground, and fine ground bark of the Black Wattle (*Acacia mollissima*), largely used for tanning purposes in Australia and Europe. The exports of this bark from Tasmania to England in 1882 amounted to a value of £56,910 sterling. (A small quantity for sale. Apply to the Commissioner.)

GOVERNMENT OF TASMANIA.—Tin trophy of ingots of smelted tin. The lower portion of the trophy consists of a rockery composed of the rocks and mineral ores of the Mount Bischoff district, lent by the Mount Bischoff Tin Mining Company, Limited, Launceston.

It comprises—

Porphyritic granite and slate, with specimens showing the junction of both in the tin-bearing country.

White and red porphyry.

Variegated porphyry.

Chlorite (prismatic talc).

Fluor spar (purple and red).

Ores of lead.

Ores of tin of various degrees of richness.

Tin crystals in granite.

Above the rockery, are 16 glass cases exhibiting stanniferous gravels, found in the various faces of the Mount Bischoff Mine, ranging in richness from 15 to 60 per cent. of tin. The main structure of the trophy is composed of ingots of pure smelted tin ranging from 80 lbs. weight each to 20 lbs. The trophy is decorated with fantastic specimens of pure tin, the drippings of the smelting furnaces. Around the base is a circle of small tin ingots. The weight of the smelted metal employed in constructing the trophy is 7 tons. This metal is for sale.

GUESDON, CHARLES A., Collins Street, Hobart.—Specimens of crushed lode tin dressed and undressed ore from the West Cumberland Tin Mining Co. Mount Heemskirk, West Coast of Tasmania.

Specimens of lode stone from the same mine.
* Block of ore taken from the lode, 60 feet wide, at Haley's Extended Tin Mining Company, Blue Tier, Eastern Tasmania.
* Specimens of alluvial wash and tin ore nuggets, East Coast of Tasmania.
* Large block of lode tin stone by which the Orient Tin Mine was discovered, West Coast of Tasmania.

MURNANE, W., Lisle.—Chalcedony and other minerals from Lisle Gold Field.

Specimen of lode stone from the TASMANIAN TIN MINING COMPANY, Ben Lomond, Tasmania.

Specimens of lode stone from the ORIENT TIN MINING COMPANY, Mount Heemskirk, Tasmania.

WESTWOOD, CHARLES H.—Tin minerals from Peripatetic Tin Mining Company, West Coast of Tasmania.

GLOVER, CHARLES A., Franklin, Huon.—Collection of hone stones.

HARCOURT, JAMES, Elizabeth Street, Hobart.—Samples of tin ore, alluvial and lode, from the Argyle Tin Mine, East Coast of Tasmania.

HOWARD, HAWKS, Lloyd's Hotel, Wharf, Hobart.—Specimen of grey free-stone (dressed), from Quarry Knock Lofty, near Hobart.

JUST (MAJOR T. C.), Commissioner for Tasmania.—Large collection of minerals, Tasmanian and South Australian, arranged in cases on either side of the Court.

JONES, ROBERT, Riccarton.—Wool in fleeces.

JOHNSTONE, JAMES, Elizabeth Street, Hobart.—Saddles and bridles.

JACOBS, SAMUEL, Boat Wharf, Hobart.—Tasmanian shells. For sale—Price Rs. 4 to Rs. 10 per necklace.

MARTIN, J. D., Elizabeth Street, Hobart.—Shells and shell necklaces.

MURRAY, WILLIAM, Glenorchy.—Soap and candles.

MOUNT BISCHOFF TIN MINING COMPANY, Launceston.—Minerals constituting the base of trophy.

Large nugget of tin ore found in the Brown Face at the Mount Bischoff Mine. Believed to be the largest nugget of black oxide of tin ever discovered. Weight 6 cwt.. assay 65 per cent. of metal.

MECHANICS' INSTITUTE, Launceston.—Index mineral cabinet.

Commissioner for Tasmania, Major T. C. Just, and the Commissioner of Gold Fields, Tasmania, Bernard Shaw, Esq. The minerals contained in above cabinet representing a complete index to to the mineralogy of Tasmania.

The contents are as follows :—

TIN ORES.

MOUNT BISCHOFF TIN MINING COMPANY.

Dressed Tin Ore and Sand in all Stages before dressing.

Compartments 1 to 23.
Washdirt from the different faces in work at the present time.
Iron and associated minerals.
Limestones.
Coal.
Lead ores, &c.
Copper.
Silver.
Antimony.
Bismuth.
Miscellaneous minerals.
Auriferous quartz and gold.

MACE, EDWARD, Collins Street, Hobart.—Specimens of tin ore.
NICHOLLS, S. A., Launceston, Hobart.—Specimens of tin ore.
OLDHAM, H., Latrobe —Silver ore from Mount Claude.
PURCHASE CO., LIMITED, Port Lempriere.—Collection of minerals. Iron ores and smelted iron; Asbestos, &c.
RIDDOCH, ALEXANDER, M. H. A., Hobart.—Specimen of fossiliferous limestone from Bridgewater, near Hobart.
SMITH, JAMES, River Forth.—Specimen of pine from River Forth.
Collection of minerals.
SCOTT, JAMES, M. H. A., Bohill, Launceston.—Indigenous seeds and seed vessels. Petrified root of a tree from Mount Morrison, near Ross.
SHOOBRIDGE, E., AND SONS, New Norfolk.—A bale of hops grown at Bushy Park, New Norfolk.
SANTIFALLER, J. B., Hobart.—Shells and shell necklaces.
VAUTIN, HENRY, Elizabeth Street, Hobart.—Collection of leather, embracing sole leather. Kip do. Dressed sheep skins, various colours. Goat skins or Levant leather. Calf kid skins. Calf skin patent leather. Kangaroo skins. (These are the skins of a marsupial, herbivous animal peculiar to Australia, the best specimens of which are found in the bush of Tasmania, where they are hunted or snared. The leather is largely used for boots and shoes, being preferred to French calf.)
VINEY, ROBERT, Evandale.—Wool fleeces in grease.
WARNER, HENRY JOSEPH, Collins Street, Hobart. Samples of tin stone from Eastern and Western Coasts.
WALDEN, JAMES, William Street, Launceston. (Prize medallist at the Adelaide and Melbourne Exhibitions).—Yola Bird oil from the Mutton Bird or Sooty Petrel. *Yola Bird tallow. Seal oil.
WESTWOOD, CHARLES W., Collins Street, Hobart. Collection of minerals.

SECTION G.—MACHINERY AND IMPLEMENTS, MEANS OF TRANSPORT, APPLIANCES USED IN THE COMMON ARTS AND INDUSTRIES, INCLUDING MODELS AND DESIGNS.

CLASSES LXXXII TO CIX.

BRAIN, THOMAS, Tunbridge.—Six halters manufactured of New Zealand flax, by a lad who is totally blind, the result of an accident while gold mining.
DIXON, R. C. & Co., Launceston and Sydney.—Portable gas-making machine.
HARVEY & Co., Collins Street, Hobart.—Buchan's patent gold amalgamator.
KAYSER, F. W. H., Waratah, Mount Bischoff.—Model of ore-crushing and dressing machinery used at the Mount Bischoff mine.
WOODS, W., JUNIOR (16 years of age).—Inlaid writing desk of Tasmanian woods.

* Yola or Mutton Bird oil is obtained from the stomach of the bird when young only.
Uses of the same—medicinal, also as a lubricator. Largely used for machinery and in the manufacture of leather; also useful for horses' broken knees, collar and saddle galls; restores the hair quickly. Value—three shillings and six pence (3*s.* 6*d.*) per gallon.
Yola tallow, an antifriction grease, also used in the manufacture of hemp and jute goods, bags, woolpacks, &c., and in the manufacture of leather and of soap. Value—one shilling and nine pence (1*s.* 9*d.*) per gallon of nine pounds.
Seal oil for burning and leather manufacturing. Value—3*s.* per gallon.

SECTION H.—FOOD PRODUCTS.

CLASS CX TO CXXXVI.

ANDERSON, EDWARD. River Forth.—Cheeses.
BARNARD, MACKAY & Co., St. John Street, Launceston.—Four *cheeses* manufactured by R. Cadman, Londavro, St. Mary's, near Fingal.
BAULD, Latrobe, River Mersey.—One case potatoes.
BURT, MRS. R. R., 39, Warwick Street, Hobart.—Apple jelly.
BURGESS, W. H. & Co., Liverpool Street, Hobart.—Jams of Tasmanian fruits, manufactured by Hawkins & Co., Huon River.
CONNOLLY, D. H., George Street, Launceston.—Colonial wines and French brandy.
DALY, M. F., Liverpool Street, Hobart.—Hams, bacon, and cheeses. Butter.
DOSSITOR, D. R., Old Wharf, Hobart.—Samples of wheat and flour.
EADY, C. G., Liverpool Street, Hobart. Dandelion ale.
FLEMING, JOHN GIDLEY, Liverpool Street, Hobart. Potted butter.
GROVE, PHILLIP, Huon River.—Apples. (These apples had to be disposed of immediately on arrival.)
HOUGHTON, J., Perth.—Two bags fine flour.
RIVER DON TRADING Co., River Don.—Hams and bacon.
JOYCE, JOHN, Brisbane Street, Launceston (special gold medallist).—Hams and bacon.
IKIN, WILLIAM, Old Wharf, Hobart.—Apples. (Had to be disposed of on arrival.)
KELLY AND GORDON, Brisbane Street, Hobart.—Stand of cordials and syrups and ærated and mineral waters. (Prize medallists, see certificates.)
TASMANIAN PRESERVING AND TRADING Co., LIMITED, Glenorchy, near Hobart.—Trophy of preserved rabbits in one and two pound tins. (A favourite meat for curry and fricassee, ragout and rabbit pies.)
MURRAY, WILLIAM, Glenorchy, near Hobart.—Table vinegar, apple cider, sweet and dry.
MCKENZIE, ROBERT, George Street, Launceston.—Large circular trophy of cordials and syrups. (Stands of ærated and mineral waters.)
PANTON, E. H., Launceston Hotel.—Apple cider.
PEAK, H. AND F., Davey Street, Hobart. Trophy of jams and jellies.
PEART, GEORGE, Charles Street, Launceston.—Hams and bacon.
RICHIE, DAVID, St. John Street, Launceston.—Flour, oatmeal, split peas.
RUSSELL, R. D., Liverpool Street, Hobart.—Jams in glass and tins.
STEARNES, FREDERICK, Charles Street, Launceston.—Seeds and grain, potatoes.
SHARPE, JOHNSTON, Liverpool Street, Hobart.—Hams and bacon, smoked and unsmoked.
SCOTT, ROBERT, River Forth.—Flour and oatmeal.
STEWART, R. D., Pardoe "Torquay," River Mersey.—Cheeses.
THOMPSON, MRS. JOHN, Cormiston, River Tamar.—Native bread *(Mylitta Australis)*, very rare.
WEAVER AND Co., Chemists, Elizabeth Street, Hobart.—Cordials and syrups.
WATSON, JOSIAH, Providence Valley, near Hobart.—Apples.

SECTION I.—AGRICULTURE AND HORTICULTURE.

CLASSES CXXXVII TO CXLIII.

ANGLO-AUSTRALIAN GUANO Co., Hobart.—Guano from Bird Island, South Pacific Ocean. Largely used as a manure by Tasmanian farmers.

SECTION K.—ETHNOLOGY, ARCHÆOLOGY, AND NATURAL HISTORY.

CLASSES CXLIV TO CXLIX.

GOVERNMENT OF TASMANIA.—Collection of photographs. The fishes of Tasmania.

HUBBARD, GEORGE, Brisbane Street, Launceston.—Stuffed birds and animals.

KŒPPEN, MRS. LOUISE, 15, Murray Street, Hobart.—Platypus and porcupine.

MEREDITH, MRS. LOUISA ANN.—Collection of Algæ gathered at Orford, East Coast of Tasmania, and named by Professor Agardh.

PATON, THOS. J., Brisbane Street, Hobart.—Busts of Tasmanian aborigines.—The tribes now entirely extinct.

1. William Lanney *alias* King Billy, the last Tasmanian male aboriginal.
2. Woureddy, a celebrated chief of the Oyster Bay Tribe.
3. Trucannini, a female of the Oyster Bay Tribe.

VICTORIA.

SECTION A.—FINE ARTS.

CLASS I.—PAINTINGS AND DRAWINGS.

D'ALTON, HENRIETTA, Stawell:—Paintings of Australian wild flowers.

DEPARTMENT OF EDUCATION; Hon. James Service, M.P., Minister; G. Wilson Brown, Secretary.—Water-colour drawings of 20 of the principal State Schools of Victoria.

MATHER, JOHN, 95, Collins Street West, Melbourne.—
Oil painting: A morning walk by the Yarra.
Oil painting: A Sunny Bank.

PARSONS, MRS. GEORGE, St. Ruan, Charnwood Road, St. Kilda, Melbourne.—
Oil painting: *View of the Buffalo Mountains.*
Oil painting: View at Myrtleford.
Water-colour drawing: View on the Ovens River.
Water-colour drawing: In the Lonely Bush.
Water-colour drawing: Near Maffra, Gippsland.
Water-colour drawing: View of the Gippsland Ranges.

RIELLY, HENRY, 3, Eastbourne Street, Windsor.—Oil painting: A Teamster's Camping place between Yea and Tallarook, Victoria.

ROWAN, MRS. ELLIS, care of Captain F. C. Rowan, 29, Queen Street, Melbourne.—Twelve water-colour drawings of Australian and New Zealand native flowers, berries, &c.

CLASS IV.—ENGRAVINGS AND LITHOGRAPHS.

SANDS AND MCDOUGALL, 46, Collins Street West, Melbourne.—Chromo-lithographs, as prepared for the Victorian Art Union:—
A Summer Evening in the Pentland Hills.
A Long-forgotten Australian Expedition.
The Last of the Drove.
Spring.
Mount Aspiring, New Zealand.

GOLDSBOROUGH, R., AND CO., LIMITED, Bourke Street West, Melbourne; F. E. Stewart, Manager.—Chromo-lithographs of the principal wool store belonging to the Company in Melbourne, the grain store in Melbourne, the wool and produce warehouses belonging to the Company in Sydney.

NEW ZEALAND LOAN AND MERCANTILE AGENCY COMPANY, LIMITED, Collins Street West, Melbourne; David Elder, Manager.—Engraving of the new premises erected for the Company in Collins Street West.

SYME, DAVID, AND CO., Proprietors of *The Age*, *The Leader*, and *The Illustrated Australian News*. Collins Street East, Melbourne.—Engravings, framed, views of Australian scenery, public buildings, notable incidents, &c., also views of Melbourne, published as supplements to *The Illustrated Australian News*.

TROEDEL AND CO., Lithographers and Printers, 43, Collins Street, East Melbourne.—Frames containing specimens of art chromo-lithography.

WILSON AND MACKINNON, Proprietors of *The Argus*, *The Australasian*, and *The Australasian Sketcher*; L. C. Mackinnon, General Manager, Collins Street East, Melbourne. Framed engravings from *The Australasian Sketcher*, illustrative of Australasian scenery, public buildings and works, notable incidents, &c.

CLASS V.—PHOTOGRAPHS.

BALLARAT CITY COUNCIL, Ballarat.—Photographic views of Ballarat; public buildings public reserves, gardens, waterworks, &c.

BOARD FOR PROTECTION OF ABORIGINES, 69, Temple Court, Melbourne; Capt. A. M. Page, Secretary.—Photographic views of the stations established as homes for the Aborigines of Victoria. Portraits of aboriginals.

BOTANIC GARDENS. W. R. Guilfoyle, F.L.S., C.M.R.B.S., Lond., Director.—Photographic views of Melbourne Botanic Gardens (in six frames); photographed by N. J. Caire, Melbourne.

DEPARTMENT OF EDUCATION; Hon. James Service, Minister; G. Wilson Brown, Secretary; Thomas Bolam, Inspector-General.—Photographs of school buildings, framed and in book.

DEPARTMENT OF POST OFFICE AND TELEGRAPHS; Hon. Graham Berry, M.P., Postmaster-General and Chief Secretary of Victoria.—Photograph of the General Post Office, Melbourne.

DEPARTMENT OF PUBLIC WORKS; Hon. Alfred Deakin, M.P., Commissioner; Charles Le Cren, Secretary.—Photographs of public works.

DEPARTMENT OF TRADE AND CUSTOMS; Hon. G. D. Langridge, M.P., Commissioner; A. W. Musgrove, Secretary.—Photographs of Custom House, Melbourne, light-houses of Victoria, vessels in docks, and Alfred Graving Dock, Williams Town, Melbourne.

ELLERY, R. L. J., Director, Observatory, Melbourne.—Photographs of the moon, enlarged photograph of the moon, and bird's-eye view of the observatory.

KNIPE, J. H., 34, Collins Street West, Melbourne.—Photographs of the exterior and interior of the Melbourne International Exhibition, 1880-81.

LINDT, J. W., 7, Collins-Street East, Melbourne.—Photographs of the members of the Royal Commission for Victoria at the Calcutta Exhibition, in one large frame, mounted on old-gold velvet. Views of Australian scenery. Portraits of aboriginals. Views of Australian scenery, in album cases.

MELBOURNE CITY CORPORATION; Councillor James Dodgshun, J.P., Mayor; E. G. Fitzgibbon, Town Clerk.—Framed photographic panoramic views of the city of Melbourne, taken from the dome of the International Exhibition (complete in 24 pictures).

MELBOURNE CRICKET CLUB, Exchange, Melbourne; B. J. Wardill, Secretary.—Photograph of the Melbourne Cricket Club ground. Photograph of Club parlour and grand stand.

RICHMOND CITY COUNCIL; Councillor John Adam, Mayor; Thomas Gardner, Town Clerk.—Photographic views of Richmond Town Hall, Post and Telegraph Office, Court House, and other public buildings, framed.

TUTTLE AND CO., 84 Elizabeth Street, Melbourne.—Frames of highly finished photographs. Porcelain enlarged photo-picture, finished in water-colours.

CLASS VI.—OTHER WORKS OF ART NOT SPECIFIED.

FULLER, MISS ELIZABETH, Inverleigh.—Flowers, formed with native birds feathers.

SMITH, MISS ANNIE, School of Art needlework 9, Flinders Street East, Melbourne.—Portière, worked in crewels upon bolton sheeting (old English pattern). Portière, white trumpet lilies worked on satin sheeting. Chair, tiger lilies worked on satin and mounted in ebonized wood. Screen, three-fold, embroidered silks designed on satin and mounted in ebonized frame.

STOKES AND MARTIN, 29, Little Collins Street East, Melbourne.—Medals and medal-dies, engraved by the firm for various public bodies and institutions.

SECTION B.—EDUCATION AND APPLICATION OF LIBERAL ARTS.

CLASS VII.—EDUCATIONAL APPLIANCES, MODELS OF SCHOOLS, SCHOOL FURNITURE, AND BOOKS.

AUSTRALIAN HEALTH SOCIETY, 41, Collins Street East, Melbourne.—Sanitary Tracts, issued by the Society.

CENTRAL BOARD OF HEALTH, Melbourne; President, Richard Youl, M.D; Secretary, John J. Shillinglaw, F.R.G.S.—Bound volume of seventeen reports of the Board, together with Acts, Regulations, instructions, and plans affecting health legislation in Victoria.

CRELLIN, WILLIAM, Louisa Cottage, Newry Street, North Fitzroy, Melbourne.—Book of tables for the use of land and mining surveyors, entitled *Crellin's Complete Traverse Tables.*

Instrument for reading the same.

DEPARTMENT OF EDUCATION, Honourable James Service, M.P., Minister; G. Wilson Brown, Secretary, Thomas Bolam, Inspector-General.—Special collection for the Exhibition.

Model of State School for 500 children.
Model of portable State School for 30 children, teachers' quarters attached.
Set of reading books.
Manual of drill and other text-books.
Copy-books from classes II to VI.
Home exercise books from classes II to VI.
Needlework.
Map drawing.
Penmanship, plain and ornamental.
Notes of object lessons.
Map of Victoria, showing the names and positions of State schools in the various parishes, &c., throughout the colony.
The Department's annual reports.
Lithograph of Victorian insectivorous birds.
Lithograph of Victorian snakes.
Lithograph of State School No. 1976, Sandhurst.
School map of Victoria.
School map of Australasia.
Planisphere of the southern sky.
Plans and specifications of portable school buildings.
The Education Act and Regulations.
Syllabus of the training institution.
Set of circulars.
Set of examination papers.

DEPARTMENT OF GOVERNMENT STATIST, under the control of the Honourable Graham Berry, M.P., Chief Secretary of Victoria; H. H. Hayter, C. M. G., Officer de l'Instruction Publique, Statist.—

Victorian year books, by H. H. Hayter, C.M.G.
Statistical Register of Victoria, by H. H. Hayter, C.M.G.
Census Tables and Report for decade ending 1881.

DEPARTMENT OF MINES AND WATER-SUPPLY; Hon. J. F. Levien, M.P., Minister; Major Thomas Couchman, Secretary.—

Progress Report of the Geological Survey of Victoria, Nos. * 2 to 6.
Prodromus of the Palæontology of Victoria, Decades * 2, 4, 5, 6.
† Observations on New Vegetable Fossils.
Mineral Statistics of Victoria for the Years 1880, 1881, and 1882.
Report of the Chief Inspector of Mines for the Years 1880, 1881, and 1882.
Reports of the Mining Surveyors and Registrars for the Four Quarters of each of the Years 1881 and 1882, and the first Two Quarters of the Year 1883.
Notes on the Nuggety Reef, Maldon.
Hints for the Collection of Specimens.
Report of the Inspector of Explosives for the Years 1880, 1881, and 1882.

* No. 1 of Progress Report, and Decades 1 and 3 of Palæontology, out of print.
† Samples of the fossil fruits, Spondylostrobus Smythii and Celyphina McCoyi, accompanied this exhibit.

DEPARTMENT OF PATENTS, TRADE MARKS, AND COPYRIGHTS, under the control of the Hon. G. B. Kerferd, M.P., Attorney-General; Johnson Hicks, Clerk of Patents, Queen Street, Melbourne.—Complete Indices of all Patents granted in Victoria.

DEPARTMENT OF POST OFFICE AND TELEGRAPHS; Hon. Graham Berry, M.P., Postmaster-General.—Report upon the Affairs of the Post Office and Telegraph Department, 1882.

LAWRENCE AND O'FARRELL, 23 Elizabeth Street, Melbourne.—The Australian Brewers' Journal; Mineral Water, Wine and Spirit Traders' Review.

McIVOR, R. W. E., F.I.C., F.R.S.E., F.C.S., Flinders Lane East, Melbourne.—Bound copies of the Australian Farmers' Journal.

MOONEN LEO, 21 and 23, Collins Street, East, Melbourne.—Musical instruction books.

PUBLIC LIBRARY, MUSEUMS, AND NATIONAL GALLERY OF VICTORIA; President, Hon. Sir George Verdon, K.C.M.G., C.B., F.R.S.; Librarian, T. F. Bride, L.L.D.—Catalogue of the Public Library of Victoria. 2 vols., 8vo., 1880.

SHILLINGLAW, JOHN J., F.R.G.S., Secretary, Central Board of Health, Melbourne.—Early Historical Records of Port Phillip—The First Annals of the Colony of Victoria. Edited for the Government by J. J. Shillinglaw, F.R.G.S., 1 vol., folio.

CLASS VIII.—MAPS, CHARTS, AND GEOGRAPHICAL APPARATUS.

DEPARTMENT OF LANDS; The Hon. A. L. Tucker, M.P., Commissioner; A. Morrah, Secretary.—Maps—Photo-lithographed, prepared and issued by the Department of Lands and Survey:—Australia, Victoria, Melbourne.

DEPARTMENT OF MINES AND WATER-SUPPLY; Hon. J. F. Levien, M.P., Minister; Major T. Couchman, Secretary.—Geological maps and plates.

DEPARTMENT OF RAILWAYS; Hon. D. Gillies, M.P., Commissioner; P. P. Labertouche, Secretary.—
Maps of the railways of Victoria.
Raised modelled map of Victoria, shewing mountains, rivers, plains, and railways of Victoria.

DEPARTMENT OF TRADE AND CUSTOMS; Hon. C. D. Langridge, M. P., Commissioner; A. W. Musgrove, Secretary: Charts.

ELLERY, R. L. J., Government Astronomer, Observatory, Melbourne: Map showing distribution of rainfall over Southern Australia in 1882.

McCOLL, HUGH, M.L.A., St. Kilda, Melbourne:
Bird's eye view of Victoria, showing proposed route of the Grand Victorian North-Western Irrigating, Traffic, and Motive Power Canal, projected by B. H. Dods, C.E.
Plans showings mode of construction, exhibited by Hugh McColl, M.L.A., for Mandurang.

WHITEHEAD, E., AND CO., Collins Street East, Melbourne: Travellers' map of Victoria.

CLASS XII.—PRINTING AND BOOK-BINDING.

CURTIS, JAMES, 39 Armstrong Street, Ballarat: Specimen book of general letter-press printing.

DEPARTMENT OF GOVERNMENT PRINTER, under the control of the Hon. James Service, Printer and Treasurer of Victoria; John Ferres, Government Printer: Specimens of letter-press printing.

DEPARTMENT OF POST OFFICE AND TELEGRAPHS; Hon. Graham Berry, M.P., Postmaster-General: Specimens of postage, duty, fee, and freight stamps, post cards, and embossed envelopes manufactured in this office.

NEWLANDS, W. H., Castlemaine: Specimens of printing, &c.

NOONE JOHN, Crown Land Office, Melbourne: Photo-lithographic copies of plans on full and reduced scales, produced by the process used in the Crown Lands Office.

[The plans exhibited by Mr. Noone are produced by the photographic process invented by Mr. J. W. Osborne while in the Crown Lands Office, Melbourne. It is applicable to all line drawings, prints, engravings, manuscript, &c. An outline of this process may be given in a few words, The plan or other document is affixed to a board and a photographic negative taken of it in the usual way. An impression is taken from this in the sun on to a sheet of paper prepared with a coating of gelatine, bichromate of potash, and albumen. When sufficiently printed it is coated with a thin film of lithographic printing ink, and then laid down on a pan of boiling water for a few minutes until the unaltered gelatine softens and swells. The photograph is next placed on a board, and the gelatine washed off with cold water and a sponge. When the print appears complete, boiled water is poured over it, and it is hung to dry. The printer now transfers it to stone in the usual way, as from this stage its treatment differs in no way from that of an ordinary lithographic transfer drawing.]

TROEDEL AND CO., 43 Collins Street East, Melbourne: Book containing specimens of lithography in all its branches.

WHITEHEAD, E., AND CO., 67 Collins Street East, Melbourne: Specimens of heraldic engraving, engraving on copper and steel, die-sinking and embossing, ball programmes, menu cards, maps of Victoria, lithographed and printed.

CLASS XIV.—MUSIC AND MUSICAL INSTRUMENTS.

FINCHAM, GEORGE, Bridge Road, Richmond, Melbourne;
Photograph of the Grand International Exhibition Organ, built by the exhibitor for the International Exhibition at Melbourne, 1880-81.
Specimen sheets of spotted metal for organ pipes cast in the Exhibitor's Factory, at Richmond, from Australian metals.

NICHOLSON AND CO., 45 and 47 Collins Street East, Melbourne.—Songs, dance music, pianoforte pieces; and books published by the exhibitor.

CLASS XV.—SCIENTIFIC INSTRUMENTS.

MACGEORGE, E. T., Avoncourt, St. James' Park, Hawthorn: Drill test, or bore-hole indicator for the survey of bores, which have been deviated from their intended direction. (*See* Class 85.)

SECTION C.—HEALTH.

CLASS XVII.—APPLIANCES CONNECTED WITH SANITATION AND HYGIENE.

BLANCHE, HENRY BARKLY (care of Messrs. Lawrence, Cohen and Co.), 6 Little Collins Street East, Melbourne. Photograph of plan of a mechanical scavenger. Explanation of same.

DRAPER AND SONS, 83 Great Bourke Street West, Melbourne:—Patent earth closets. Patent earth commodes.

CLASS XVIII.—DRUGS AND MEDICINES.

AUSTRALASIAN DEODORIZING, DISINFECTING, AND FERTILIZING COMPANY, LIMITED the Exchange, Melbourne. Hunter's patent vegetable disinfectant.

BOSISTO, JOSEPH, M.P., J.P.; President of the Victorian Commission for the Calcutta International Exhibition, 1883-84, Richmond, Melbourne. Chemical and pharmaceutical preparations obtained from the eucalyptus and other indigenous vegetation, prepared and exhibited by Joseph Bosisto, M.P., Richmond, Melbourne, late President of the Pharmacy Board of Victoria, by whom the Eucalyptus preparations were first introduced both in Australia and in Europe.

From Eucalyptus.

The numerous species of the Eucalypti possess variable characteristics, both in their physical structure, general appearance, and in many chemical products, as the following exhibits will show.

The original investigation of this tribe of Australian vegetation was commenced by the proprietor of these preparations in the year 1853; from that time to the present they have been employed in most of the hospitals of Europe and Australia, and also by medical men in their general practice.

These active remedial agents, coming from a vegetation unknown to contain, prior to the above date, such valuable properties, excited the special attention of the medical profession throughout Europe, America, and Australia; and in their reports many of the leading physicians of the world have testified to the efficacy and multifarious uses of the Eucalyptus in medicine, and for sanitary purposes.

OL. EUCALYPTI ESSENTIAL.—This is the celebrated Eucalyptus Oil of Commerce, which obtained the Silver Medal of the Society of Arts, London, in the year 1866; the Gold Medal of the Sydney International Exhibition; the Gold Medal of the Melbourne International Exhibition; and also the Special Recommendation by the jurors appointed for the Emperor of Germany's Prize, valued at 700 guineas, for "PURITY, EXCELLENCE, AND INDUSTRIAL PROGRESS;" and Prize Medals at all the European, American, and Australian Exhibitions since 1853. Botanical name, Eucalyptus amygdalina. Natural order, Myrtaceæ. Habitat, Victoria. Properties, stimulant, stomachic, rubefacient, antiseptic. Obtained from the leaves. Employed greatly in the hospitals of Australia and Europe. For external use as a remedy for rheumatism, lumbago, sciatica, sprains, chilblains, whooping cough, croup, asthma, bronchitis, sore throat, chronic hepatitis, and all other painful affections where a stimulating application is required. *Mode of application for rapid effect.*—Apply the oil with much friction, until a glow of warmth is established. *For a soothing and steady action.*—Shake well together a tablespoonful of the oil with half-a-pint of warm water, saturate a cloth with this, and apply over the painful part, repeating, if necessary, in half an hour. *For internal use.*—For coughs, asthmatic and throat affections, 5 to 10-drop doses on loaf-sugar occasionally. This oil is a thorough deodorant, disinfectant, and an antiseptic of great power. A few drops sprinkled on a cloth and suspended in a sick room renders the air refreshing.

OL. EUCALYPTI GLOBULI ESS: $C_{10}H_{18}O$.—Botanical name, Eucalyptus globulus, the Blue Gum-tree of Victoria. Natural order, Myrtaceæ. Habitat, Tasmania and Victoria. Properties, tonic, stimulant, antiseptic. Obtained from the leaves only. *Anthelmintic.*—By enema, 30 to 60 minims in mucilage of starch. *Internally.*—Dose 3 to 5 minims in gum mucilage, syrup, or glycerine. A small dose promotes appetite; a large one destroys it. In stronger doses of 10 to 20 minims it first accelerates the pulse, produces pleasant general excitement (shown by irresistible desire for moving about), and a feeling of buoyancy and strength. Intoxicating in very large doses, but, unlike alcohol or opium, the effects are not followed by torpor, but produce a general calmness and soothing sleep. A strong cup of coffee will at once remove any unpleasantness arising from an overdose.

OIL. EUCALYPTUS DUMOSA.—Ess., or Mallee Oil.—Botanical name, Eucalyptus dumosa oleosa. Natural order, Myrtaceæ. Habitat, desert of Australia. Properties: contains in a marked degree the active and well-known characters of the Eucalypti, persistent and strong in aroma, and containing elements of power adapted for arts, in the preparation of artists' paints, preserving both colour and tone. Manufactures; as a ready and powerful solvent, without heat of resinous gums and caoutchouc, and in perfumery for household soaps.

INDIA RUBBER IN SOLUTION WITH EUCALYPTUS OIL, to show its value as a solvent.

INDIA RUBBER VARNISH, made with the Eucalyptus Oil.—It is extremely flexible, may be spread in very thin layers, and remain unaltered under the influence of air and light. Employed to varnish geographical maps or prints. It does not affect the whiteness of the paper, nor reflect light disagreeably as resinous varnishes do, and is not subject to crack or come off in scales. It may be used to fix black chalk or pencil drawings; and unsized paper, when covered with this varnish, may be written on with ink.

ESSENTIAL OIL, EUCALYPTUS SIDEROXYLON (Ironbark Gum).
ESSENTIAL OIL, EUCALYPTUS OBLIQUA (Stringy bark).
ESSENTIAL OIL, EUCALYPTUS CITRIODORA (Sweet-scented Gum, Queensland).
ESSENTIAL OIL, EUCALYPTUS FISSILIS (Messmate).
ESSENTIAL OIL, EUCALYPTUS STUARTIANA (Apple-tree Gum).
ESSENTIAL OIL, EUCALYPTUS GONIOCALYX (White Gum).
} Specimen samples showing the variety of aroma existing in the Eucalypti.

EUCALYPTOL $C_{18}H_{30}O$. (Vapour density 6·22.) From Eucalyptus Globulus.—This volatile body is a homologue of camphor, and appears to be two steps higher in the series. Its vapour, mixed with air, is fresh, agreeable when inhaled, and is employed as a therapeutical agent in bronchial and diphtheretic affections. *Quantity employed.*—From half to one teaspoonful with half a pint of hot water in the inhaler.

EUCALYPTENE: From Eucalyptus Globulus.—The tonic or bitter principle in an amorphous condition. Employed in low fevers, in doses of 1 to 3 grains, Chemical and Pharmaceutical Preparations obtained from the EUCALYPTUS. &c., prepared and exhibited by JOSEPH BOSISTO, M. P., Richmond, Melbourne—*continued.*

LIQUOR EUCALYPTI GLOBULI.—(The Fever and Ague remedy.)—Obtained from the Blue Gum or Fever-tree of Australia, highly recommended by the medical faculty of Europe and Australia as a remedy for ague, intermittent and remittent fevers, and for restoring strength and vigour. It counteracts malaria without exerting the prejudicial effects of quinine on the nervous system. *Dose* for ague and dengue fever, 30 to 60 drops in half a wineglassful of water every two or three hours during the paroxysms of ague. As a general tonic, 20 to 30 drops in wine or water three times a day.

SUCCUS EUCALYPTI GLOBULI, LAMINÆ.—(Tonic, Antiperiodic, and Antiseptic.)—An important remedial agent in intermittent and remittent fevers, also successfully employed in affections of the respiratory organs—bronchitis, asthma, ephysema, whooping cough; relieving fits of coughing, and allaying the irritation of the bronchi by promoting expectoration. *Dose.*—20 to 30 minims in Syr Aurantii vino, or on loaf-sugar. For children, the dose in proportion to age. Employed also in purulent catarrhal affections of the urethra and vagina in dilution; and as an antiseptic in dressing wounds.

SUCCUS EUCALYPTI ROSTRATI.—This species of the Eucalypti (Red Gum) possesses a delicate mucilaginous astringent, and is a safer and more effective remedy than either kino or catechu. *Dose.*—Adult, 1 fluid drachm; generally in combination with Conf. Arom.

SYRUPUS ROSTRATI.—(Prepared from the Inspissated Juice of the Red Gum-tree of Victoria).—A delicate mucilaginous astringent in combination with tonic properties. Employed with benefit in all affections of the mucous mem-

brane of the stomach and bowels, and is a valuable remedy in the treatment of chronic dysentery and diarrhœa. As a topical astringent in relaxation of the uvula and tonsils, either in the form of a gargle, syrup, or lozenge, it forms one of the most useful remedies. Soluble in alcohol, cold or boiling water. Incompatibles—the alkalies and the metallic salts.

TROCHISCI EUCALYPTUS ROSTRATA (or Red Gum Lozenges).—For all affections of the throat is a remedy of great service. Public speakers and singers will find them invaluable. Containing nothing deleterious, they can be taken as freely as requisite.

CIGARETTES OF EUCALYPTUS GLOBULUS.—Recommended for bronchial and asthmatic affections, and also for their disinfecting and antiseptic properties.

UNG. EUCALYPTI VIRIDIS.—Antiseptic emolient; rapidly sets up a healthy action.

EUCALYPTUS DISINFECTANT PASTILLES.—During the combustion of these antiseptic Pastilles there is an actual distillation of the antiseptic ozone, which passes off into the air of the room in which they are burnt. The fumes are of great service in diseases of the respiratory organs, and will also drive mosquitoes out of a room.

SANITARY EUCALYPTUS ODORATA POWDER (for Aromatising Rooms and public Halls in times of Fever or other Epidemics).—It supplies a fresh and healthy atmosphere by its evolving ozone, and imparts all the invigorating effect of an Australian forest. It will keep the moths from carpets if sprinkled on the floor before laying them down. It will be found specially useful in places where public documents or bank notes are stored; also in hopitals, offices, cabins of ships, and bedrooms.

EUCALYPTIC ACID (from Eucalyptus Rostrata).—Supposed to be the principle contained in the Red Gum wood of Victoria that prevents the attack of the Teredo Navalis when it in used is the construction of jetties.

FOLIÆ EUCALYPTUS GLOBULUS.—Illustrating the grandeur and vigour of the giant trees of the Blue Gum in their native forests. Habitat, Cape Otway. Length of leaf, 16 inches.

FOLIÆ EUCALYPTUS AMYGDALINA.—Illustrating the abundance of the oil cells in this species.

FOLIÆ EUCALYPTUS OBLIQUA ... } Illustrating the varieties of the foliage.
FOLIÆ EUCALYPTUS STUARTIANA... }

GUM EUCALYPTUS OBLIQUA (Australian Kino).

GUM EUCALYPTUS SIDEROXYLON (Australian Catechu).

GUM EUCALYPTUS ROSTRATA (Red Gum, Victoria).

POTASH EUCALYPTUS.—The leaves of the Amygdalina, after being deprived of the volatile oil, yielding 10 per cent. of Potashes.

From other indigenous vegetation.

OTTO ACACIÆ PYCNANTHA, or wattle blossom perfume.

ATHEROSPERMA MOSCHATA CORTEX.—Botanical name, A. moschata. Natural order, Atherospermaceæ. Habitat, in deep ravines and gullies of Victoria and Tasmania. Properties, sedative, diaphoretic; contains an essential otto and a tonic bitter, termed atherospermine.

OL. ATHROSPERMA MOSCHATA ESS.—The physiological effects of this oil, in small doses, are diaphoretic and sedative, and it appears to exert a specific lowering influence upon the heart's action. As a medicine it has been introduced into the European hospitals, and employed successfully in cases of heart-disease. Administered in 1 or 2-drop doses at intervals of six or eight hours.

ATHEROSPERMINE.—The tonic principle of the bark.

OL. MELALEUCA ERICIFOLIA, or Ti-ti tree of Australia.

RESIN, PINUS CALLITRIS (Murray Pine).—Obtainable in quantity from under the pines growing on ridges in the Mallee country. Drops in tears from the boughs.

RESIN, PINUS VERRUCOSA.—Found in the interstices of the bark.
RESIN, XANTHORRHŒA AUSTRALIS (Grass-tree of Australia.)—Soluble in spirit, of a deep amber colour, obtainable in large quantities. Employed for staining wood to imitate cedar and oak. Contains picric and cinnamic acids.
RESIN, XANTHORRHŒA HASTILIS.—Another grass-tree.
ACACIA MOLLISSIMA CATECHU.—Employed by tanners.
ACACIA MOLLISSIMA BARK.—Known as wattle bark.
FELTON, GRIMWADE AND CO.—Wholesale Manufacturing Chemists and Druggists, 31 and 33 Flinder's Lane West, Melbourne:
Preparations arranged in glass case:—

Kruse's soluble carbonate of magnesia.	Liquid ammonia.
Kruse's fluid magnesia.	Carbonate of ammonia.
Kruse's insecticide.	Vermilion.
Phosphorised wheat (for destruction of rabbits and other vermin).	Mercurials.
	Mineral acids, pure and commercial.
Wormald's carbolic soap.	Bisulphide of carbon.
Vincent's Fuller's earth soap.	Solution of calcis bisulphide.
Sulphate of ammonia, commercial and pure.	Purified benzine.

LEWIS AND WHITTY, 28*a* Flinder's Lane, Melbourne:—
Seidlitz powders.
ROOKE, TOMPSITT, & Co.—Wholesale Druggists and Manufacturing Chemists, 3 Flinder's Street West, Melbourne:—
Fluid Magnesia, Insectibane.
ROYAL AROMATIC HORSE AND CATTLE SPICE COMPANY.—Castlemaine; Geo. Thomas, Secretary:
Horse and cattle spice.
SULLIVAN, JOSEPH, 15 King William Street, Fitzroy, Melbourne:—
Disinfectant preparations.
Anti-corrosive soluble glass for the prevention of corrosion in boilers and on the bottoms of ships.

CLASS XX.—HOSPITAL APPLIANCES.

ROOKE, THOMPSITT & Co.—Wholsale Manufacturing Chemists and Druggists, 3 Flinder' Street West, Melbourne:—
Silk elastic surgical goods.

SECTION D.—FURNITURE AND OTHER OBJECTS FOR THE USE OF DECORATION OF DWELLING-HOUSES AND OTHER BUILDINGS.

CLASS 23.—FURNITURE AND UPHOLSTERY.

ALCOCK AND CO., 132 Russell Street, Melbourne: Billiard table, manufactured of Queensland tulip wood. Combination cabinet pool money receiver and marking board. Electric marking arrangements. Revolving cue stand and cues. Hall and garden seats made from Victorian timber, as supplied to racing and cricket clubs, public gardens, and reserves in and around Melbourne.
HORWOOD, WILLIAM, Albion Foundry, Castlemaine: Seats and lounges for halls, conservatories, gardens, &c.
MCLEAN BROTHERS AND RIGG, Wholesale Ironmongers and Manufacturers, 69 Elizabeth Street, Melbourne:

Chairs for public halls or theatres, iron-framed, painted white and gold, upholstered in crimson velvet.

CLASS 24.—GLASSWARE OF ALL KINDS.

MELBOURNE GLASS BOTTLE WORKS COMPANY, Graham Street, Emerald Hill, Melbourne:
Bottles of green glass, made from beach sand.

CLASS 25.—STONE UTENSILS, POTTERY, EARTHENWARE, AND PORCELAIN.

BENDIGO POTTERY COMPANY, LIMITED; G. D. Guthrie, Manager, Epsom, Sandhurst:
Majolica. Vases, stoneware. Assortment of articles in Rockingham, cane, and whiteware.
NOLAN, LUKE, Park Street West, Brunswick, Melbourne: Drain pipes, stoneware. Filter, patent double cylinder. Vases, terra-cotta. Jars, preserving and pickling. Jars, cane and Rockingham ware. Jugs, figured stoneware. Jugs, majolica. Teapots, &c.

CLASS 28.—BRUSHWARE.

ZEVENBOOM, JOHN, AND SON, 223 Elizabeth Street, Melbourne: Brooms, brushes, &c.

CLASS 29.—BASKETWARE.

BOARD FOR PROTECTION OF ABORIGINES, 69 Temple Court, Melbourne; Capt. A. M. Page, Secretary: Basketware and mats woven from grass made by aboriginals. Child's suit, made by one of the aboriginal women at Coranderrk Station.

CLASS 30.—APPARATUS AND PROCESSES FOR COOLING, HEATING, AND LIGHTING.

KNOBEL, GUSTAV ADOLPH, C.E., Arcona, near Merton, County Delatite: Fan ventilator, compound, silen (improved), effecting at once both plenum and vacuum; adaptable also as an exhauster of vitiated air from mines, manufactories, and public buildings; also as a fan for smelting works, forge fires, and winnowing.

CLASS 31.—DECORATIVE WORK, INCLUDING CARVING AND ARTWARE.

CAWKWELL, HENRY ATKINSON, Australian Tile Works, Malvern: Mosaic tiles for flooring. Encaustic tiles for flooring.
HOOD, JOHN, 72 Cobden Street, Emerald Hill: Wood enamelling, specimens of.
SANGWELL, ALFRED (care of Mr. G. Whittingham), Caulfield, near Melbourne: Art vases, for growing plants. Cones, for growing plants. Rustit table for photographs. Rustic table.

CLASS XXXII.—CARPETS, HANGINGS, TAPESTRY, STUFFS, MATTING, PAPER HANGINGS.

NEITTLEBERG, MORRIS, 67 Beach Street, Sandridge, and Elizabeth Street, Melbourne:—Rugs and mats, made from the skins of various Australian animals.

PENAL ESTABLISHMENT, Pentridge; under the control of the Hon'ble Graham Berry, M.P., Chief Secretary of Victoria; J. B. Castieau, Inspector-General: Fancy bordered mat. Lettered coir mat. Open brush mat. Plain brush mat.

REFORMATORY, Ballarat; J. Evans, Superintendent: Door mat.

SCHOFIELD, J., AND CO., Big hill, Yarra flats: Fur rugs, made from the skins of Victorian animals. Fur mats, made from the skins of kangaroos, opossums, native bears, &c. Opossum skin railway rug. Native bear skin buggy rug. Native cat skin rug (dyed imitation opossum skin border). Wallaby skin carriage rug. Native bear skin carriage mat (complete specimen). Kangaroo skin mat. Native bear skin hall mat. Wallaby skin piano mat. Bed-room mats. Opossum skin mat (complete specimen).

WHITTALL, G. M., AND CO., Beehive Chambers, Elizabeth Street, Melbourne: Hearth rugs. Angora and goat-skin rugs of different colours. Plain mats. Fancy mats. Fur goods.

Square of Brussels carpet, representing a Victorian fern-tree gully. Specially designed and manufactured to the order of the exhibitors, by the well-known firm of M. Whittall and Co., of Kidderminster.

CLASS XXXIII.—MARBLE, ALABASTER, &C.

PENTELIC MARBLE MINING COMPANY, No Liability, Upper Murray; H. W. Sinclair, Secretary, Normandy Chambers, Chancery Lane, Melbourne: Marble slabs, polished and unpolished (Red-fossil, dove, brown, grey and other varieties).

SLEIGHT AND CO., Madeline Street, Carlton, Melbourne: Granite and bluestone slabs, polished and unpolished.

UNITED SHIRE OF METCALFE, Metcalfe: polished column of granite from the Harcourt quarries.

CLASS XXXIV.—ORNAMENTAL WORK IN GOLD, SILVER AND OTHER METALS.

EDWARDS AND KAUL, Manufacturing Jewellers, Collins Street West, Melbourne: Model of the Surface Workings of a Gold Mine, in the form of a massive Inkstand, size 36-in. x 12 in.

This exhibit shows, amongst other objects, the engine-house elevated tramway with trucks complete, poppet-heads, mouth of shaft and quartz-crushing battery with ten head of stampers complete. Men are shown at work pushing trucks, feeding the battery, sharpening their tools, and otherwise engaged in mining operations. The whole forms an admirable and realistic illustration of the most improved form of mining on a large scale as carried on in Victoria. There are also several figures shown in other branches of mining, including men at work, sinking a shaft, turning a windlass, and gold-washing by means of the old-fashioned cradle. Heaps of washdirt, quartz, and tailings and small dam or reservoir complete the picture.

Epergne of solid silver, illustrative of Victorian Flora and Fauna. At the base are introduced groups of Aboriginals, Kangaroos, Wallabies, Emus, &c.; also specimens of Australian Flora.

Emu Eggs prepared in the form of Inkstands, Vases, Cups, &c., in sterling silver and electro-plate, including Arabesque, Grecian, Etruscan, and Australian.

Jewel Caskets, Tobacco Stands, Smokers' Companions, &c.

STOKES AND MARTIN, 29 Little Collins Street East, Melbourne: Massive centrepiece representing an Australian Fern-tree, the base showing a gully scene displaying both the Fauna and Flora; an Australian aboriginal Spearing a Kangaroo; a Lubra in alarm at the appearance of a black snake.

Mounted Emu Egg Tea Set. Inkstands, vases, claret jug, and other trophies.

CLASS XXXVI.—OTHER HOUSEHOLD UTENSILS AND APPLIANCES.

JEANS, SAMUEL ENGLAND, High Street, St. Kilda, Melbourne: No. 3 Reflector Gas Cooking Stove, with boiler and all utensils complete.

REFORMATORY, Ballarat; J. Evans, Superintendent: Potato Net.

SECTION E.—FABRICS, INCLUDING APPAREL, TOILET REQUISITES, AND OTHER OBJECTS OF PERSONAL WEAR OR USE.

CLASS XXXIX.—WOOL FABRICS.

PENAL ESTABLISHMENT, Pentridge; under the control of the Hon. Graham Berry, M.P., Chief Secretary of Victoria; J. B. Castieau, Inspector-General; Blankets and others.

VICTORIAN WOOLLEN AND CLOTH MANUFACTURING COMPANY, LIMITED, Geelong. R. S. Nicholls, Secretary, Geelong; Tweed cloths, fancy; scarlet cloth, blue coating; blue flannel, scarlet flannel, brown coating; railway uniform cloth; grey coating.

CLASS XLVI.—APPAREL AND HABERDASHERY.

PENAL ESTABLISHMENT, Pentridge; under the control of the Hon. Graham Berry, M.P., Chief Secretary of Victoria; J. B. Castieau, Inspector-General serge frock, serge trousers, blue cloth trousers, Dickey flannel shirt.

REFORMATORY, Ballarat: J. Evans, Superintendent: Jacket, trousers, and vest, as worn by boys in the Reformatory.

CLASS 47.—BOOTS, SHOES, AND SLIPPERS.

JAMES AND McGAN, 42 George Street, Fitzroy, Melbourne. Men's women's, and children's boots and shoes, finely finished.

PENAL ESTABLISHMENT, Pentridge; under the control of the Hon. Graham, Berry, M.P., Chief Secretary of Victoria; J. B. Castieau, Inspector-General: Men's boots used in penal establishment, men's boots used in the asylums, boy's boots, used in the Reformatories, women's boots, used in the asylums, men's elastic-side boots, ladies' button kid boots, ladies' elastic-side patent leather boots, ladies' elastic-side patent leather shoes, ladies' Balmoral boots, men's boots used by football clubs, men's boots used by the artillery corps.

REFORMATORY, Ballarat; J. Evans, Superintendent: Boots, made by the boys, detained in the Institution.

CLASS 48.—HATS AND CAPS.

LANG, WILLIAM, North Fitzroy, Melbourne: Felt hats, hard, and soft, made from wool. Hats in various stages of manufacture.

STEVENSON, L., AND SONS, Warehousemen, Hat and Cap Manufacturers, 14 Flinders Lane East, Melbourne: Felt hats and helmets, made from Victorian wool and Victorian fur. Hats and helmets, gossamer make; hats and helmets, cork lined.

CLASS 51.—PERFUMERY.

PINCUS, MAX, Hargreave: Street, Castlemaine's Perfumery, antiseptic, having Eucalyptus for its base; perfumery, handkerchief; toilet powders

ROCKE, TOMPSITT, AND CO., 3 Flinders Street West, Melbourne: Lavender water, florida water.

CLASS 52.—OBJECTS NOT SPECIFIED.

NETTLEBERG, MORRIS, 67 Beach Street, Sandridge, and Elizabeth Street, Melbourne: Skins of Australian animals tanned in the hair, made up in various articles of apparel and of use or ornament.

SECTION F.—RAW PRODUCTS AND MANUFACTURES FROM PRODUCTS NOT INCLUDED IN OTHER SECTIONS.

CLASS LIII.—MINERALS AND METALLURGIC PRODUCTS.

DEPARTMENT OF MINES AND WATER-SUPPLY; Hon'ble J. F. Levien, Minister; Major T. Couchman, Secretary: Collection of *fac similes* of large nuggets of gold found in Victoria.

Specimen of cores obtained by the Mining Department of Victoria during boring with the diamond drills.

INDUSTRIAL AND TECHNOLOGICAL MUSEUM, under the control of the Trustees of the Public Library, Museums, and National Gallery of Victoria; J. C. Newbery, C.M.G., B.C., Superintendent: Collection of minerals and ores of Victoria.

KITCHINGHAM, EDWIN LEWIS, Pyrites Works, Bethanga: Mineral ores of various descriptions. Coloured clays. Kaolin clays. The new elk polish powder and plate polish, in tins and boxes, manufactured from the Bethanga ores.

LELI, NATHANIEL, 147, Collins Street East, Melbourne: Coal, from Cape Patterson.

[Some years ago 2,000 tons of coal were raised from this ground, and fetched a high price in the market. The Government of Victoria has accepted a tender for 10,000 tons of coal off the ground from which the exhibit has been taken.]

ROYAL COMMISSION FOR VICTORIA AT THE CALCUTTA INTERNATIONAL EXHIBITION, 1883-84.—Gold trophy, designed by Mr. Arthur Everett, of the Mining Department of Victoria.

The entrance to the Court was through a golden arch, representing the amount of gold found in the colony of Victoria up to the 27th July 1883, viz., 51,844,235 ounces, equal to 3,002 cubic feet. The dimensions of the arch were as follows:—Height 28 feet; width 25 feet, by a depth 6 feet; height to crown of archway, 16 feet 6 inches, with an opening of 13 feet. It was surmounted with the arms of Victoria and the flags of different nations, together with shields on

which were inscribed the names of the four principal gold-fields, viz., Ballara, Sandhurst, Castlemaine, and Stawell.

SCHOOL OF MINES, Ballarat; T. M. Krause, Curator: Collection of minerals and ores of Victoria.

CLASS LIV.—INDIGENOUS TIMBER AND OTHER FOREST PRODUCTS.

BOTANIC GARDENS, Melbourne; W. R. Guilfoyle, F.L.S., Director: Collections of ferns.

CALHOUN, ANDREW, Portarlington:

Acacia Pycnantha (golden wattle) seed.
Acacia Pycnantha gum.

DEPARTMENT OF AGRICULTURE; The Hon'ble J. F. Levien, M.P., Minister; D. E. Martin, Secretary: Seeds and corpological specimens of Australian timber trees.

INDUSTRIAL AND TECHNOLOGINAL MUSEUM OF VICTORIA; under the control of the Trustees of the Public Library, Museums, and National Gallery of Victoria; J. Cosmo Newbery, C.M.G., B.S.C., Superintendent: Collection of specimens of woods, from the trees and shrubs of Victoria, adapted for economic purposes. Prepared for exhibition by F. W. Barnard.

ACACIA.

(Natural Order—Leguminosæ. Sub.-Order—Mimoseæ.)

The Acacia in Australia is more numerous in species than any other genus of Phanerogamous (or flowering) plants. It includes the so-called wattle-trees, a name which has been more commonly applied to these species so celebrated for the astringency of their bark, used for tanning, and for their gum (gum-acacia), identical with gum-arabic.

Acacia decurrens (Willd.) Common wattle. (No. 4.)

This, including its variety *A. mollissima*, is known also under the names of green wattle, black wattle, and feathery wattle, but must not be confounded practically with the silver wattle noted next in order, though but doubtfully a distinct species. Frequent throughout the colony, except the desert tract; particularly along river banks, in valleys, ascending to sub-Alpine elevations, forming often underwood in Eucalyptus forests. A small or middle-sized tree; in the fern-tree gullies forming a tree 150 feet.

Acacia dealbata (Link.) Silver wattle. (No. 5.)

Common on river banks and in valleys, flowering usually earlier than *A decurrens var. mollissima*. The timber and other products of the tree are very similar to those of the last-named species, though the percentage of tanning is considerably lower.

Acacia homalophylla (A. Cunn.) Myall. (No. 8.)

Is found in the Mallee scrub. A small tree, being one of the species yielding the violet-scented myall wood. It possesses a dark and beautiful duramen. From its generally small size the use of its timber is mostly confined to the manufacture of tobacco pipes, whip handles, and small articles in turnery. This species yields a gum, which is copiously available during the summer season.

Acacia implexa (Benth). (No. 9.)

Scattered over ridges of the lower silurian formation, from Port Phillip to the Pyrenees and Upper Murray, but nowhere common. A middle-sized tree; wood useful for cabinet work.

Acacia leprosa (Sieb.) (A. reclinata.) Native Hickory. (No. 11.)

Dandenong ranges and elsewhere in moist forest valleys through the southern and eastern parts of the colony. Usually a rather small tree with a slender stem, yielding excellent wood for furniture.

Acacia linearis (Sims). (No. 12.)

Frequent in moist forest valleys through the southern and eastern parts of the colony. Usually a rather small tree; wood available for minor furniture.

Acacia melanoxylon (R. Br.) Blackwood. Lightwood. (No. 15.)

Frequent on rich river flats, thence extending abundantly into the valleys. (F. Mueller.) A middle-sized to a large tree, yielding magnificent wood for every description of cabinet work, as it has a beautifully marked and richly-coloured grain which takes a polish freely, and gives an effect not to be surpassed by walnut, to which it has many points of similarity. It is very close-grained and heavy, and is useful for all purposes where strength and flexibility are required. It is largely used by coach-builders in every department of the trade, for cooperage, in the construction of railway carriages and trucks, and in the better class of agricultural implements. It is also used for gun stocks and a variety of turnery work.

Acacia penninervis (Sieb.) (No. 18.)

Scattered through the eastern *half* of the colony, over ridges and ranges, gregarious on some of the sub-alpine declivities and plateaux. A usually small tree.

Acacia pycnantha (Benth.) Golden wattle. (No. 20.)

Frequent throughout the greater part of the colony, in open forest country or scrub. This is one of the species yielding tanners' bark and wattle gum.

Acacia retinodes (Schlecht). (No. 21.)

On grassy ridges and open valleys throughout the greater part of the colony. A moderate-sized ever-*flowering* tree.

Acacia salicina (Lindl.) (No. 24.)

Common in the north-west desert. A small or occasionally middle-sized tree. Wood—hard, heavy, and durable, and of a fine dark shade; highly adapted for ornamental furniture.

Acacia supporosa (F. M.) Native Hickory. (No. 29.)

Restricted to the east part of Gippsland. This I *consider* a valuable wood for many purposes. It is exceedingly tough and elastic, would make good gig shafts, handles for tools, gun stocks, &c. Tall, straight spars fit for masts can be obtained, from 50 to 100 feet long, and 18 inches diameter.

Angophora intermedia (D. C.) Spurious Apple-tree. Nat. ord.—Myrtaceæ. (No. 34.)

Restricted to the eastern part of Gippsland. A middle-sized, rarely a large tree. Timber very valuable in quality; when free from gum-veins it is much used for naves of wheels, and cut into boards for various purposes.

Aster argophyllus (Lab.) The musk-tree. Nat. ord.—Compositæ. (Eurybia argophylla.) (No. 35.)

Confined to moist, umbrageous forest gullies, but there abundant. Never exceeds 60 feet in height, and is generally smaller. It has a pleasant fragrance, is of a beautiful mottled colour, and well adapted for turnery, for veneering, fancy articles of furniture, pianofortes, &c.

Aster glandulosus. Nat. ord.—Compositæ. (No. 35A.)

Widely distributed through the colony; never of large size, often shrubby. This and many other kinds of wood of small size are catalogued merely to make the collection complete.

Atherospermum moschatum (Lab.) Victorian Sassafras-tree. Nat. ord.—Monimiaceæ. (No. 37.)

In deep, wet forest ravines. A middle-sized tree, affording a timber which is useful to the cabinet-maker. It has a dark duramen, and frequently exhibits a pleasant figure, and has also the quality of taking a beautiful polish.

Avicennia officials (L.) Native Mangrove. Nat. ord.—Verbenaceæ. (No. 38.)

Extending along the sea-coast in salt-water estuaries. A low, branching tree, yielding a timber valued for stonemasons' mallets and some other utensils.

Banksia marginata (Cav.) (B. Australis, R. Br.) The common honey-suckle tree, Nat. ord.—Proteaceæ. (No. 39.)

In less fertile localities all over the colonial territory, ascending to sub-alpine elevations. A small tree. Yielding a light timber of a beautiful grain, which is used for stems and short knees of boats, and generally for cabinet furniture and various ornamental purposes.

Banksia integrifolia (L. Fil.) The coast honeysuckle tree. Nat ord.—Proteaceæ. (No. 40.)

To be found only on the coast, eastward from Port Phillip. A middle-sized tree. Yielding a timber possessing qualities and uses similar to those of *Banksia marginata*, but of much larger dimensions.

Banksia serrata (L. Fil.) The heath honey-suckle tree. Nat. ord.—Proteaceæ. (No. 41.)

On the sandy heaths of Gippsland rather frequent. A small or occasionally middle-sized tree, having always a remarkably crooked stem; wood possessing qualities similar to those of *B. marginata*.

Bursaria spinosa (Cav.) Prickly box-tree. Nat. ord.—Pittosporeæ. (No. 44.)

Common in the lowlands as well as in the mountain districts. A tree of small size; stem rarely exceeding a foot in diameter; wood very hard and fine-grained, adapted for turnery, carpenters' rules, and many other implements. (*Jurors' report.*)

Callitris cupressiformis (Vent.) The mountain cypress pine. (Frenela rhomboidea, Endl.) Nat. ord.—Coniferæ. (No. 49.)

On rocky, densely-timbered ranges—thus on the Grampians and the Genoa Ranges. A middle-sized tree, known also as the Oyster Bay pine.

Callitris verrucosa (R. Br.) The desert sandarac pine or cypress. (Frenela robusta, A. Cunn.) Nat. ord.—Coniferæ. (No. 51.)

More or less copiously dispersed through the mallee scrub, in some directions abundant. The timber of this tree, from its peculiar odour, is sometimes called camphor wood, and is said to be obnoxious to the attacks of insects. The dark beauty of the wood renders it useful for many small articles of cabinet furniture. Valuable for cabinet purposes, and very durable for telegraph posts.

Casuarina quadrivalvis (Lab.) The drooping she-oak. (C. stricta, Ait. not Miq.) Nat. ord.—Casuarinæ. (No. 57.)

Frequent in grassy plains and hills and along the sandy coast. A quick growing, middle-sized tree, with branchlets usually if not always pendulous. The she-

oaks are well adapted on account of the singular beauty of their grain for various purposes in furniture manufacture. It is also used in the making of river boats. This wood is also excellent for turnery and for other ornamental work. She-oak is also frequently used as firewood for domestic purposes. It does not flame, but burns down to an incandescent glowing mass, which makes a peculiarly pleasant fuel for the house. Timber used for shingles and staves.

Casuarina suberosa (Ott. and Dietr.) The straight she-oak. (C. leptoclada, Miq. Nat ord.—Casuarinæ. (No. 58.)

On grassy ridges of the lower as well as higher regions; not rare. A moderate-sized tree. Timber and foliage possessing qualities similar to those of *C. quadrivalvis.*

Coprosma microphylla (A. Cunn.) Nat. ord.—Rubiaceæ. (No. 64.)

In forest swamps and on periodically inundated river banks, not rare throughout the southern and eastern districts. A small-sized tree or a bush only.

Drimys aromatica (F. M.) (Tasmannia aromatica, R. Br.) Native pepper-tree. Nat. ord.—Magnoliaceæ. (No. 69.)

Humid forest ranges from the Cape Otway Ranges and Gippsland to the Australian Alps, ascending to at least 5,000 feet. A bushy shrub or small tree.

EUCALYPTUS OR GUM-TREE.

(*Natural order.—Myrtaceæ.*)

Eucalyptus albens (Miq.) White box or grey box-tree. (Sect. Rhytiphloiæ. (No. 76.)

Occurs on open ridges in the ovens, broken river, and some other spots. A tree attaining 60 to 80 feet, with a dull-green persistent bark.

Eucalyptus amygdalina (Lab). Almond leaved Eucalypt. One of the Peppermint trees; in some districts occasionally known as stringy bark-tree, and the Messmate of other districts of Victoria. (No. 77.)

In forest country of the southern and eastern parts of the colony, always interspersed with other trees. A tree of colossal size in deep ravines, and a middle-sized tree in more open places. This tree may be the tallest on the globe, perhaps only rivalled by the *Wellingtonia gigantea (Sequoia Wellingtonia)* of California. It has been measured repeatedly 420 feet, and towards the sources of the Yarra it is said to attain a still greater height. The wood is fissile, well adapted for shingles, rails, for house-building, for the keelson and planking of ships and other purposes. It is a hard close-grained timber. The inner bark is adapted for the preparation of all kinds of coarser paper. This species contains more oil in its foliage than any of its congeners. 1,000 lb. of fresh gathered leaves with their small branchlets yield 500 ounces of oil by distillation. It is rubefacient, disinfectant, and employed externally in rheumatic affections, and in the manufactures chiefly for perfumery, soaps, &c. Kino from this species is largely available. (Mueller, Bosisto.)

Eucalyptus botryoides (Sm.). The Blue Gum of New South Wales. (Sect. Rhytiphloiæ.) (No. 79.)

East Gippsland, flourishing on river banks. A tall, handsome tree, remarkable for its dark-green foliage. The stems which have a rough, furrowed, persistent bark, attain a height of 80 feet without a branch, and a diameter of 8 feet. The timber, usually sound to the centre, is adapted for bridge piles, waggons, boat-building, &c. No decay was observed in posts which were in use fourteen years. (Muller.) The Blue Gum of the coast district of New South Wales. It is considered to be one of the finest timbers for ship-building. (Moore.)

Eucalyptus coriacea (A. Cunn.) One of the White Gum-trees. Mountain White Gum-tree. (Sect. Leiophloiæ.) (No. 81.)

Mountain or marshy forests, ascending in the Alps 4,000 to 5,000 feet, where it forms rather extensive woods. A tree attaining sometimes a considerable height; exterior bark deciduous, the inner smooth and whitish.

Eucalyptus corymbosa (Sm.) The blood-wood Eucalypt. (Sect. Rhytiphloiæ.) (No. 82.)

In Victoria this species is confirmed to the eastern part of Goppsland. A small or middle-sized tree, but sometimes attaining a great height, with a persistent furrowed bark. Less known to timber merchants than its apparent quality would seem to merit. It exhibits a clear grain of a red colour, and is well adapted for many useful purposes in the mechanical arts.

Eucalyptus fissilis (F. M.) Messmate. (No. 85.)

A large tree, occurring in less fertile mountain districts; in some places abundant. It has many of the properties of stringy bark and White Gum; wood hard, straight-grained, splits readily into posts, rails, palings, and shingles for fencing and building purposes. Wheelwrights use it for shafts, ploughbeams, the framing of drays, &c.

Eucalyptus globulus (Lab.) The Victorian and Tasmanian Blue Gum. (Sect. Leiophloiæ.) (No. 86.)

Is confined to forest valleys except near the coast. It extends often in masses from the vicinity of Cape Otway through moist ranges to Western Port, various parts of Gippsland, Mount Buller, and the Buffalo Ranges, but scarcely passing into New South Wales. It grows to nearly the same colossal size, in deep declivities, as *E. amygdalina*, *E. Stuartiana*, and *E. obliqua*. Bark somewhat fibrous, deciduous, leaving the inner bark on the trunk smooth. A hard light-coloured timber of great strength and tenacity, as well as durability; extensively used for beams, joists, &c., in buildings, and for railway sleepers, piers, and bridges. It is also well adapted for ship-building. From the great length of the trunks it is especially suitable for outside planking, and the large number of uniform size procurable renders it useful for piles, where the required length would make the use of Red Gum impracticable. It has been used for masts of vessels, but owing to its great weight, it is not so suitable as some other kinds of timber for the latter purpose. It is also used for cab-shafts. A test of strength has been made between some Blue Gum, English Oak, and Indian Teak. The Blue Gum carried 14 lb. weight more than the Oak, and 17 lb. 4 oz. more than the Teak per square inch. (F. Mueller, in *Select Plants for Industrial Culture in Victoria.*) The specific gravity of the timber has been found 0·698 to 0·889. The kino of the tree is largely available. Paper made from the bark answers for packing and perhaps for printing. Samples of wood spirit, acetic acid, tar, charcoal, &c., prepared at the Phytochemical Laboratory of the Botanical Gardens, under the directorship of Baron von Mueller, are in this Museum. The essential oil and other extracts from, and preparations of, the foliage of *Eucalyptus globulus* are already of world-wide repute, mainly through Jos. Bosisto, Esq., J.P., M.L.A. A ton of dry wood yields about 4½ lb. pearlash and 2¾ lb. of pure potash. Weight of a cubic foot of dried wood from 43½ to 45½ lb.

Eucalyptus goniocalyx (F. M.). The Spotted Gum-tree. One of the White Gum-trees, and in New South Wales one of the Flooded Gum-trees and one of the Blue Gum-trees. (Sect. Leiphloiæ.) (No. 87.)

Confined to the more fertile ranges occurring on the Barwon, on the ovens, at Sealers' Cove, and a few other places; also from the Buffalo Ranges to the Mitchell River in Gippsland; and in the district of the Upper Yarra. Generally near rivers or creeks, but it frequently occurs as a forest tree. A moderate-sized or a gigantic tree, bark usually deciduous, but sometimes persistent. Timber hard, straight-grained, employed for joists, beams, rafters, and heavy framing, as also by the cooper for staves.

Eucalpytus Gunnii (J. Hook.). The Cider Gum-tree, Mountain White Gum. (Sect. Leiophloiæ.) (No. 89.)

Sub-Alpine regions. A small, often scrubby, tree, but attaining sometimes 30 feet, with smooth bark. The sap can by fermentation be converted into a beverage.

Eucalyptus incrassata (A. Cunn.) (No. 90.)

One of the principal bushes or small trees constituting the Mallee scrub on the Murray River and its tributaries.

Eucalyptus inophloia (F. M.) One of the Mountain Ash-trees.. (Sect. Pachyphloiæ.) (No. 91.)

In many of our forest ranges. The Mountain Ash has been so called from a fancied resemblance to the British timber of that name. It is exceedingly flexible, and has been employed by the coach-makers for shafts for light vehicles, for which it is well adapted. This timber is said to be in great favour in the Beechworth district for almost every purpose. It is also used largely for palings, fencing, &c.

Eucalyptus leucoxylon (F. M.) The Ironbark-tree, sometimes Red Flowering or Black Ironbark-tree. (E. sideroxylon, A. Cunn.) (Sect. Sehizophloiæ.) (No. 93.)

On many of our less fertile ridges, usually indicating an auriferous country, gregarious. This is considered the strongest wood in our colony. It is much recommended for railway sleepers, and extensively used for underground mining work. It is very extensively employed for the handles of axes and other implements by Victorian manufacturers. A middle or large-sized tree, with a persistent, rough, iron-grey bark. Dark-grey and spongy on the trunk, soft and white on the branches. One of the hardest and heaviest of our native woods, and has a peculiarly thick and rugged bark, with deep longitudinal fissures, which is strikingly characteristic. It possesses great strength and tenacity, and has a close and straight grain, on which account it is highly useful to the coachmaker and wheelwright for the poles and shafts of carriages and the spokes of wheels. Its greasy nature also renders this wood very serviceable to the millwright for the cogs of heavy wheels. It is also valuable for many purposes in ship-building, and constitutes one of the most imperishable of our timbers.

Eucalyptus longifolia (Link and Otto). (E. Woollsii.) The Woolybuttree. In some districts of New South Wales it is also called Peppermint and Bastard Box-tree. (Sect. Hemiphloiæ.) (No. 94.)

Occurs in the F. portion of Gippsland. A tall stately tree. Rough, fibrous, persistent, or partially deciduous bark. Somewhat smooth, or fibrous and wrinkled, according to the size of the tree. Like Ironbark, this timber is much used for wheel-spokes. It bears a high character for durability, when used for fencing purposes. For posts it is said to stand undecayed in the ground for twenty years. The wood is esteemed an excellent fuel.

Eucalyptus macrorrhyncha (F. M.). One of the stringy barks; also one of the Ironbarks. (Sect. Pachyphloiæ.) (No. 95.)

Occurs on the Macalister and Ovens Rivers and some other localities. A tall tree, with dark dull-grey, furrowed and fibrous bark. Allied to the common stringy bark of the colony in quality of timber.

Eucalyptus melliodora (A. Cunn.) Yellow Box, Box, and sometimes Peppermint-tree. (Sect. Hemiphloiæ.) (No. 96.)

Especially in the S.E. and E. ranges of the colony on low open ridges, particularly of the miocene formation. A moderate-sized tree of irregular growth, with a smooth bark, of a pale-lead colour. A valuable timber of a light colour

and greasy nature, remarkable for the hardness and closeness of its grain, its great strength and tenacity, and its durability both in the water and when placed in the ground. It is largely used by coachmakers and wheelwrights for the naves of wheels and for heavy framing, and by millwrights for the cogs of their wheels. In ship-building it has numerous and important applications, and forms one of the best materials for tree nails, and for working into large screws in this and other mechanical arts.

Eucalyptus obliqua (L'Her.). Stringy bark-tree. (Sect. Pachyphloiæ.) (No. 97).

This species constitutes on the more barren ranges in nearly all parts of our territory the prevalent timber. A large, often a gigantic tree, the largest ranging from 300 to 400 feet. (F. Mueller.) Bark very thick, rugged, and fibrous. A hard straight-grained timber; although of an inferior class it is used for a great variety of building purposes, notwithstanding its well-known liability to warp or twist and its susceptibility to dry rot. It splits with facility, forming posts, rail, and palings for fencing; also shingles for roofing. (*Juror's Report*). Supplies a good deal of second-class sawn timber in the market. (*Juror's Report.*) Specific gravity of wood 0·809 to 0·990. The paper prepared from the bark of this tree is not merely suited for packing, but also for printing and even writing. It may also be employed for mill and pasteboards. The pulp bleaches readily. The bark is used for thatching in the Australian bush. Samples of wood spirit, acetic acid, tar, and charcoal, prepared at the Phytochemical Laboratory, under the direction of Baron von Mueller, are in the Museum. Weight of a cubic foot of dry wood from 50 to 60½ lb.

Eucalyptus polyanthemos (Schauer). Red and grey box-tree and Poplar-leaved Gum-tree. (Sect. Rhytiphloiæ.) (No. 102.)

On the Ovens, Broken River, and some other spots on open ridges. A tree sometimes small, sometimes attaining 40 to 50 feet, with an ash-grey, persistent, rough, and furrowed bark. Timber used by wheelwrights for naves, felloes and spokes.

Eucalyptus rostrata (Schlecht.) The Red Gum-tree. One of the so-called Flooded gums of New South Wales. (Sect. Leiohphloiæ.) (No. 104.)

Along river flats and open valleys almost everywhere. (F. Mueller.) A tall tree, bark greyish-white, smooth, and separating in thin layers, rarely persistent and rough. A very hard, compact wood, possessing handsome, curled, but rather short grain; it is of a brown-red colour, and suitable for veneering purposes for furniture, &c. It is largely used for posts for fencing purposes. It is less subject to decay than most of the other timbers. When properly selected and seasoned, it is well adapted for many purposes in ship-building—such as heavy framing beams and knees. It is also used in the construction of culverts, bridges, wharves, and by wheelwrights for the felloes of heavy wheels, and is much approved of for railway sleepers and engine buffers. It is almost entirely free from the tendency to longitudinal shrinkage, which is the invariable characteristic of the other species of the Eucalyptus, and is almost indestructible in damp ground or in water, either fresh or salt. Its defects are its short grain, which makes it untrustworthy for horizontal bearing timber in any but very short lengths; and it cannot easily be procured in long lengths and of a moderately small diameter—a point of some importance in piles where it is desirable to have the whole section of the tree with its waning intact. Still, within a reasonable limit of length, it makes the best of all piles for engineering works, in consequence of the resistance it offers to the attacks of the *Teredo navalis*, and it cannot be surpassed for any purposes, either in engineering or building, where a resistance to sheer downward pressure is desired. It makes unequalled planking for bridges or wharves, and forms the very best of railway sleepers. Specific gravity of this wood has been stated at 0·858 and 0·923. Samples of essential oil, wood spirit, acetic acid, tar, and charcoal, obtained from this tree, are in the

Museum. Paper prepared from the bark of this species proves much coarser than that of *Eucalyptus oblique*; the pulp may be either used in admixture with that for packing paper and pasteboard, or in the composition, or perhaps as the sole ingredient for blotting and filtering papers.

Eucalyptus Stuartiana (F. M.) Apple-tree, White Gum-tree. (Sect. Hemiphloiæ.) (No. 106).

Occupies many of the moister tracts in the plains, and some of the open ranges ascending the wooden moist mountains of the Australian Alps, extending to the western frontier. A tree sometimes of enormous size. Bark of the branches smooth and deciduous, that of the trunk rough and rigid and somewhat stringy. The timber of this species is both durable and tough.

Eucalyptus dumosa (Turez.) Mallee Gum-tree. (Sect. Leiophloiæ.) (No. 108.)

Wimmera and desert of the Murray River and Avoca. A tall shrub with smooth or ash-grey bark coming off in coriaceous plates. Yields from the foliage a comparatively large quantity of oil by distillation.

Eucalyptus viminalis (Lab.) The Mana Gum-tree, Drooping Gum; sometimes Box-tree. (Sect. Leiophloiæ.) (No. 109.)

A middle-sized tree, scattered extensively over rather open grassy ridges and plains, imparting a park-like appearance to the landscape.

Eugenia Smithii (Poir.) (Acmene floribunda, D.C.) Myrtle-tree. Nat. ord.—Myrtaceæ. (No. 111.)

Not rare from Sealers' Cove to the E. boundary of the colony, along rivers and glens. A splendid tree, with remarkably dark and shady foliage, attaining a height of 120 feet.

Eupomatia laurina (R. Br.). Nat. ord.—Anonaceæ. (No. 112.)

Occurring only in the most eastern part of Gippsland, where the tree attains the height of 40 feet. (F. Mueller.)

Exocarpus cupressiformis (Lab.) Native Cherry-tree. Nat. ord.—Santalaceæ. (No. 113.)

Widely distributed over the more fertile open ridges and through both barren and fertile forest ranges. A small or middle-sized tree. Wood suitable, from the closeness of its structure, to the purposes of the cabinet-maker and wood-turner. (*Juror's Report.*) A soft, fine-grained timber, and is the best wood I know for carving. (Lockhart Morton, in *Official Record*). It is used for tool-handles, spokes, gun-stocks, &c. (W. Archer, in *Tasmanian Report*, 1862.) Specific gravity of wood (Vict. specimen), 0·756 and 0·845. Weight of a cubic foot dry wood, from 47 to 53 lb.

Fagus Cunninghami (Hook.) The Evergreen Beech, sometimes called Native Myrtle-tree. Nat. ord.—Cupuliferæ. (No. 116).

In the most secluded recesses of the mountains, from Dandenong to Mount Baw-Baw, on the various remote sources of the La Trobe River, at Wilson's Promontory, and in the Cape Otway Ranges. A magnificent tree, attaining a height of 200 feet. On the Mount Baw-Baw Ranges this beech mainly constitutes the forest for many miles.

Hakea leucopetra (R. Br.). The Water-tree (H. stricta). Nat. ord.—Proteaceæ. (No. 128.)

In the desert regions. Specific gravity of wood, 0·818; weight of a cubic foot about 51 lb.

Hedycarya Cunninghami (Tul.) (H. pseudo-morus.) Native Mulberry. Nat. ord.—Monimiaceæ. (No. 130).

Following the rivulets of our humid southern ranges. A small or middle-sized tree with comparatively soft wood of a beautiful shade, quite available for cabinet work.

Helichrysum ferrugineum (F. M.) (Ozothamnus cinereus, D.C.) Nat. ord.—Compositæ. (No. 131A.)

Frequent in most parts of the colony. Shrubby only.

Kunzea pedunculariis (F. M.) Nat. ord.—Myrtaceæ. (K. leptospermoides. (No. 136.)

Snowy River and Macalister River, mountains near Brighton. A tall shrub or sometimes a small tree.

Leptospermum lævigatum (F. M.) The Coast Tea-tree. Nat. ord—Myrtaceæ. (Fabricia lævigata, Gærtn.) (No. 138.)

Everywhere on the sandy coast. Never a large tree. Most important for fixing coast sands.

Leptospermum lanigerum (Sm.) Nat. ord.—Myrtaceæ. (No. 139.)

Gippsland and mountainous districts generally, in moist localities, particularly along rivers and around swamps.

Lomatia Fraserii (R. Br.) Nat. ord.—Proteaceæ. (No. 146.)

In the deep ravines of our southern and eastern ranges in forest valleys, especially among Fern-trees, not very common, but ascending to high cold elevations along the rivulets. A good-sized tree, the wood tough and durable; serviceable for furniture.

Lomatia longifolia (R. Br.) (No. 144.)

In irrigated forest valleys, particularly of the uplands. A light wood and very hard, with a beautiful small grain; works well.

Melaleuca ericifolia (Sm.) The swamp tea-tree. No. 147.

The so-called tea-tree, though never used for preparing any beverage. It fills most of our brackish as well as fresh-water swamps, and lines also innumerable watercourses. It is never a large tree, though it may be seen occasionally 50 to 60 feet high.

Melaleuca parviflora (Lindl.) Nat. ord.—Myrtaceæ. (M. curvifolia, Sehl.; M. Preissiana, Schau.) (No. 148.)

Observed not only along the coast tracts, particularly on sand, but also in the sub-saline desert parts of Victoria. A small or middle-sized tree. One hundred pounds of the leaves and branchlets of this species yielded about 6 oz. of an essential oil, resembling that of cajuput very closely. The material is largely obtainable in the Murray desert, and also on the coast.

Melaleuca squarrosa (Sm.) Nat. ord.—Myrtaceæ. (No. 149.)

Moist heaths and marshes, not rare. A tree developed in morassy forest glens to the height of 80 feet, the stem attaining a diameter of 2 to 3 feet; usually, however, shrubby, the bark consisting of innumerable friable papyraceous layers. Specific gravity of wood 0·713. One hundred pounds of leaves and branchlets yielded only 5 drachms of oil. Weight of a cubic foot of dry wood, about 44 lb.

Myoporum insulare (R. Br.) Nat. ord.—Myoporineæ. (No. 153.)

In considerable quantity available in the marshes and sand tracts of the coast; also in the somewhat saline portions of the desert, over other parts of the colony, but sparingly distributed. A middle-sized tree. Yields a beautiful light-coloured wood, which has been used for inlaying.

Myrsine variabilis (R. Br.) Nat. ord.—Myrsineæ. (No. 155.)

In the forest glens and on river banks in the southern and eastern parts of the colony. Generally a small, occasionally a middle-sized, tree.

Notelæa ligustrina (Vent.) Spurious Olive. Nat. ord.—Oleaceæ. (No. 157.)

Found on shady torrents in the southern portion of the colony, but seldom elsewhere. A tree of small dimensions. This is the Heartwood of Tasmania. Wood very hard, and yields a very peculiar figure.

Panax Murrayi (F. M.) Palm Panax. Nat. ord.—Umbelliferæ. (P. palmaceus.) (No. 159.)

In Victorian territory only to be found on the south-eastern boundary of New South Wales. The slender palm-like stem attains seldom above 1 foot in diameter, though not rarely a height of 80 feet. The wood is singularly light and soft, is white, and has a large pith.

Pittosporum bicolor (Hook.) Whitewood. Nat. ord.—Pittosporeæ. (No. 165.)

In the fern-tree gullies, also in the back regions. A small and occasionally a middle-sized tree. Wood valuable for handles of implements, and has been used for wood engraving by Mr. F. Grosse. Yellowish-white, very hard and of uniform texture and colour, used in turnery.

Pittosporum undulatum (Vent.) Fragrant Pittosporum. Nat. ord.—Pittosporeæ. (No. 168.)

In the humid forest glens from Western Port and Dandenong eastward throughout Gippsland. Attains in favourable localities a height of 80 feet, and a diameter of 2 feet. The wood is tough, but easily worked.

Pomaderris apetala (Lab.) Nat. ord.—Rhamnaceæ. (No. 170.)

In forest glens and along wooded river banks, not rare in the southern and eastern parts of the colony, but never seen away from moist, shady, and sheltered forest valleys. A soft, useful wood of pale colour, adapted for carvers' and turners' work.

Prostanthera lasianthos (Lab.) Mint-tree. Nat. ord.—Labiatæ. (No. 175.)

One of the most widely-diffused trees of our ranges and river banks, varying where well developed from 30 to 60 feet in height; diameter of stem about 1 foot, exceptionally 2 feet. The wood hard and tough.

Senecio Bedfordii (F. M.) Native Dogwood. (Bedfordia salicina, D. C.) Nat. ord.—Compositæ. (No. 181.)

In Fern-tree gullies and in other shady and springy glens. A hard light-coloured wood, which may be useful for inlaying and for turnery. A hard, yale-brown, well mottled wood, good for furniture.

Styphelia Richei. (Trema cannabina, Laur.) Nat. ord.—Urticeæ. (No. 182A.)

East Gippsland. A small tree.

MUELLER, BARON VON, K.C.M.G., AND PH.D., F.R.S., Government Botanist, Melbourne: Australian Woods, specifically named:—(Eighty kinds in book form; 30 in form of rulers; 20 in form of paper-knives; 10 in form of pipes; 20 in form of handles; 40 in form of flower vases, cups, dice-boxes, and various other articles.)
Australian woods used in various manners by artizans (30 kinds).
Eucalyptus seeds (40 varieties).
Collection of products from various coniferous trees cultivated in Victoria.
Collection of gums, resins, kinos, from Australian trees specifically named.

ROYAL COMMISSION FOR VICTORIA AT THE CALCUTTA INTERNATIONAL EXHIBITION, 1883-84:—Fern Gully or Grotto, representing a common feature of a

Victorian Forest. The ferns for this collection have been specially collected for the Commission by MR. W. R. GUILFOYLE, Director of the Melbourne Botanic Gardens, at various spots along the Gippsland line of railway. The collection includes:—

Dicksonia antarctica.
Alsophila Australis.
Lomaria discolor.
Aspidium aculeatum.
Aspidium decompositum.
Blechnum cartilagineum.
Davallia dubia.
Asplenium umbrosum.
Todea barbaras.

Large specimens of Alsophila Australis (one being 25 feet high, the other 15 feet high, sent to show size of some of the largest ferns found growing in the forest gullies of Gippsland).
Sections composing stem of Alsophila Australis, 36 feet high.
Sections composing stem of Dicksonia antractica, 21 feet high.

The background consists of a Victorian landscape, painted expressly for the purpose by MR. HARRY GEIST, scene painter, Melbourne.

SOUTH GIPPSLAND TRAMWAY AND TIMBER COMPANY, LIMITED, 100, Elizabeth Street, Melbourne; J. D. SPON, Manager:—Blackwood from Gippsland in polished slabs.

CLASS LVI.—OILS.

JOPLING, JOHN R., Ballarat Bone Mills, Ballarat:—Neatsfoot oil.

CLASS LVII.—SOAP, TALLOW, WAX, AND OTHER MANUFACTURES OF OLEAGINOUS SUBSTANCES.

CARWARDINE, WALTER HENRY, Charlestone Road, Sandhurst.—Soap, domestic.

JOHNSTONE, J. H., Western Beach, Geelong.—Dental and detergent soap tablets. (As there are no chemicals in the soap, it can be used in the most delicate operations.)

TASMANITE PATENT PAINT AND CHEMICAL WORKS, Benies, Michel, and Paterson, Charles Stewart, 115, Spencer Street, Melbourne.—Anti-friction grease.

UPTON, W., AND SON, Geelong.—Soap, ordinary domestic, soap eucalyptus, in bars and tablets, for hospitals and sanitary institutions; also adapted for general use. Made with Bosisto's eucalyptus oil.

CLASS LIX.—LEATHER, MANUFACTURES OF LEATHER, SADDLERY, AND HARNESS.

ALTSON, D., AND CO., 25, Bourke Street West, Melbourne.—Saddlery and harness.

BIESENTHAL, FRANCIS, AND CO., 164, Russell Street, Melbourne.—Trunk, solid leather, regulation, overland. Portmanteau, solid leather. Portmanteau, leather, expanding. Gladstone bags, American nickel mountings. Shooting bags. Gun-case. Leather.

CUNNACK, GEORGE, Castlemaine.—Sole leather, manufactured for export.

CURTIS, JOHN, Portmanteau Maker, 95 Bourke Street West, Melbourne.—Improved riveted iron frame, solid leather portmanteaux, with brass corners and turn-over edges.

GILES, ERNEST, Kew, Melbourne.—Set of double harness for pair buggy horses (made by D. Altson and Co., Melbourne).

KEEB, THOMAS, 4, Armstrong Street, Ballarat.—Saddles, side, inserted quilted doeskin seat. Gentleman's quilted doeskin seat. Gentleman's plain. Steeplechase.

MICHAELIS, HALLENSTEIN AND CO., 30 Lonsdale Street East, Melbourne.—Sole leather, light and medium.

PAUSACKER, EVANS AND Co., 8 Lonsdale Street West, Melbourne.—Portmanteaux, trunks.

PURDUE, TERENCE WILLIAM, Eydiard Street, Ballarat.—Saddle, hunting. Park, Various. Harness, double and single, brown leather and black leather.

CLASS LXII.—SILK, RAW, COCOON, AND THREAD.

MUELLER, BARON VON, K.C.M.G., ECT., Government Botanist, Melbourne.—Victorian silk and cocoons, prepared by Mrs. Timbrell.

CLASS LXIII.—WOOL, RAW, AND YARNS.

[In order to ensure a good display of Victorian grown wool, the time for receiving exhibits in this class has been extended until the middle of November, by which date samples of the new clip will be available. The full entries will be contained in the second edition of the catalogue.]

BUCHANAN, MAJOR, J. J. N., Titanga, Lismore.—Merino fleeces—X. R. R., 4 and 6 tooth rams; V. D. G., lambs; J. B., aged ewes; T., 2-tooth ewes.

BULLIVANT, W. H.—Wool.

CLARK, The Hon'ble Sir W. J., Bart., Bolinda Vale Estate, Lancefield.—Fleeces from 3-year old crossbreds from Leicester ewes by merino rams fleeces from 3-year old Leicester sheep; fleeces from 2-year old Leicester sheep.

DEPARTMENT OF AGRICULTURE; HON'BLE J. F. LEVIEN, M.P.; D. E. Martin, Secretary.—Wool, various samples, from the Government Experimental Farm.

GEELONG AND WESTERN DISTRICT AGRICULTURAL AND HORTICULTURAL SOCIETY, Geelong; C. Craike, Secretary.—Wool, various samples, grown in the Geelong and Western districts by Members of the Society.

LEWIS, WILLIAM, Stoneleigh.—Wool.

McINTYRE, PETER, Mamcluke, Beaufort.—Fleeces, washed; fleeces, from Merinos, plain washed, fleeces; from 15-month old Merinos, plain washed.

RUSSEL, HON'BLE PHILIP, M.L.C., Carngham, near Ballarat.—Twenty-four merino fleeces—2-tooth, 4-tooth lambs.

UNITED SHIRE OF METCALFE, Metcalfe; W. C. Reeves, Secretary.—Wool, unwashed, grown on Coliban Park Estate; wool, washed, grown on Coliban Park Estate.

CLASS LXXII.—BUILDING MATERIALS, EXCLUSIVE OF CEMENT.

PATENT HYDRAULIC FREESTONE COMPANY, LIMITED, Sandridge; Offices, 56, Queen Street, Melbourne.—Freestone, made from sand without cement, produced in a moulded, finished state, various articles of every-day use made by the Company, architectural embellishments for brick and other buildings.

CLASS LXXVII.—COLOURS, PAINTS, VARNISHES.

TASMANITE PATENT PAINT AND CHEMICAL WORKS; Benies, Michel, and Paterson, Charles Stewart, 115 Spencer Street, Melbourne.—Dry colours, Silicate colours. Paints ready for use.

CLASS LXXXI.—OTHER PRODUCTS AND MANUFACTURES NOT SPECIFIED.

CORRIE, WILLIAM, Flock Manufacturer, a'Beckett Street, Melbourne.—Curled hair, purified for bedding material. Flocks, purified for Bedding Material. White flock.

LEWIS AND WHITTY, 28*a* Flinder's Lane, Melbourne.—Starch, blue, blacking, soap powder, knife polish.

NATIONAL AGRICULTURAL SOCIETY OF VICTORIA, Bourke Street West, Melbourne.—J. Gibb, M.L.A., President; T. Patterson, Secretary:
Burston, S., and Co., Flinder's Street, Melbourne.—Malt, pale, amber, and black.

SMITH, WINN, AND FIELDING, 150 Flinder's Lane East, Melbourne.—Malt, amber, and pale.

TASMANITE PATENT PAINT AND CHEMICAL WORKS; Benies, Michel, and Paterson, Charles Stewart, 115 Spencer Street, Melbourne.—Sheep dips, knife polish, moulders' facing powder, brass and metal powders.

SECTION G.—MACHINERY AND IMPLEMENTS, MEANS OF TRANSPORT, APPLIANCES, AND PROCESSES USED IN COMMON ARTS AND INDUSTRIES, INCLUDING MODELS AND DESIGNS.

CLASS LXXXII.—BOILERS, ENGINES, AND FOUNDRY WORK.

HORWOOD, WILLIAM, Castlemaine.—Bell 24 inches diameter, bell 18 inches diameter, garden seats, cast metal.

CLASS LXXXIII.—RAILWAY PLANT AND ROLLING STOCK, TRAMWAYS.

LANGLANDS FOUNDRY COMPANY, LIMITED, Yarra Bank, Melbourne.—Wrought-iron railway wagon wheels.

PHŒNIX FOUNDRY COMPANY, LIMITED, Ballarat.—Photograph of the 100th locomotive engine manufactured by the company.

THE PATENT UNIVERSAL CONTINUOUS AUTOMATIC RAILWAY BRAKE COMPANY, LIMITED, Collins Street, Melbourne; John Munday, Secretary.—Set of Woods' Patent Hydraulic Automatic Railway Carriage Brake Gear, as used on the passenger trains on the Victorian Railways, where it has been successfully applied 2,500,000 times to trains in motion without one serious failure.

Its action is instantaneous in whatever length of train. It is worked from the engine by the driver, and in emergency cases by the guard from the van. The power is derived from the ordinary force-pump of the engine (or from the injector), which forces water from the tender or tank into an accumulator under the foot-plate of the engine to any pressure not exceeding the pressure in the boiler. This accumulator is connected by piping to the whole of the train, each vehicle being coupled with a steam hose and cone and cam coupling. The pressure in the engine accumulator is forced throughout the line of piping into a smaller accumulator, under each vehicle, where it is held by a small check valve. Between this accumulator and the brake gear is a triple self-acting reversing valve (shown in exhibit), which acts as follows:—When the pressure is in the main line of piping and the accumulator, the brake blocks are free and "off" the wheels; when the pressure is released from the main line of piping by the turning of a cock by the engine-driver or guard, the pressure in the carriage accumulator (being held by the check valve on one side) flies through the reversing valve to the cylinders, and actuates the plungers or pistons connected with the brake blocks, putting the brake blocks on the wheels instantly. When the driver again turns the cock on his engine, the pressure in the engine accumulator flies through the line of piping, reverses the triple valve, which allows the pressure between it and the brake gear to be released, and the blocks immediately fall "off" the wheels; the air on the top of the water in each accumulator acts as a cushion, and expands with

the small loss of water when the brake is applied, and contracts on the top of the water when the pressure is again pumped up. There is nothing beyond the ordinary engine pump or injector as the motive power. The brake is automatic in action, so that, should a coupling break, all the blocks will immediately fly on the wheels; and the brake gear of any vehicle in a train can be put "on" or "off" by hand, by the turning of a small handle, conveniently placed at the side of the under-carriage. Passenger trains on the suburban lines, making 200 stoppages per day, have been running most successfully with this brake over five years. One train has run over 310,000 miles, requiring only renewed worn blocks and couplings. All the gear is interchangeable.

TYRER, P.; 425 King Street, Melbourne: Spark Arresters, suited to Locomotive and Portable Engines, especially those burning wood. The object of this invention is to arrest all dangerous particles of fire before they reach the funnel. It is done in the following manner:—

A cage is placed between the blast pipe and the funnel, gradually widening to the funnel, and showing to the ascending fire an apparently solid body of wire, though in reality it consists of a series of wire discs, the same being placed one above another, with a space between them for ventilation, the lower one forming a shield to the next one above it, and so on until the funnel is reached. By this arrangement (which is very simple) the draught is not interfered with. This has always been a drawback to all previous inventions, together with the choking of wires. The latter objection is overcome by making each ring loose in the standard, so that they will vibrate when struck by the ascending fire. Once the cage is fitted in position, it requires no more attention, and will last for years, and then it will only require re-wiring. The extinguishing portion of the patent is not required; it consists of a cold water spray placed just above the cage, and mixes with the exhaust steam from the blast pipe, and it is conveyed by a pipe from an accumulator which is charged by the pump.

CLASS LXXXIV.—TELEGRAPHY, TELEPHONES, HELIOGRAPHS.

MASTERS, W. H. AND CO., Edison Bell Telephone Agency, 55 Little Collings Street, West, Melbourne:—Telephones, with battery, wires, and all fittings complete, manufactured in the establishment of the firm, Melbourne.

CLASS LXXXV.—MINING AND METALLURGY.

AUSTRALIAN LITHOFRACTEUR COMPANY, LIMITED, 31 Little Collins Street East, Melbourne; T. TOLLEY JONES, Manager.—Models of Dynamite and Lithofracteur Cartridges, and drawings of various methods of using the same in Mining, Sub-marine, and other operations.

JOHNSON AND CO., Tyne Foundry, Yarra Bank, Melbourne:—

Rock-boring Machine, with Hose Coupling, Pole Clip, and connexions complete.

Large Photographs (framed) of the Tyne Foundry; also Photographs of Bridges (iron girder), Steam Engines, and other machinery manufactured by the firm.

MACGEORGE, E. T., Avoncourt, St. James' Park, Hawthorn.—Drill Test or Borehole Indicator for the Survey of Bores which have deviated from their intended direction, consisting of twelve Automatic Compass Clinometers, a Guide Tube to contain six of these, and a recording instrument.

In Victoria the experience has been varied and practical. The records of the working of the diamond drill by cable mining managers under Government supervision have led to the discovery of some peculiar if not singular defects, which, if not provided against, are productive of a waste of capital and labour much to be regretted in connexion with the expansive use of this mining appliance. The most serious defect proved to exist has been the liability of the drill to

diverge from the perpendicular or straight-line when boring. When used for the discovery of quartz reefs, or for defining the course of an auriferous gutter in alluvial workings, it is of vital importance that no such deflection should take place, otherwise a great and needless expenditure is caused. Even when say a quartz reef, being sought for, is pierced by a bore, the work of searching for that bore by means of driving from a shaft is largely increased by this liability to diverge. There is one well-proved case on record in Victoria, in which it was demonstrated that a bore on the United Scotchman's mine, at Stawell, was 80 feet out of its true line. This mistake led to the discovery and perfecting of the useful invention for the checking of this proneness to err on the part of the drill, which we will now describe in an easily comprehended manner, free from technicalities.

The invention is an automatic test or indicator, which can be readily applied to any bore in the following manner:—Iron piping or hollow rods in 10 feet lengths, jointed end to end to the length of say 500 or 600 feet, is provided. This is for the purpose of forcing the test apparatus into the bore. A "guide tube," easily fitting into the borehole, is attached to the lowermost of the rods above mentioned. This tube is securely closed against water pressure, and contains six phials fitting accurately the guide tube. Each phial is provided with an upper bulb containing a suspended plummet, and a lower bulb containing a semi-floating magnetic bar needle, free to assume the meridian. The phials are all filled with a solidifiant fluid, liquefied by heat for use, and capable of congealing when *in situ* (*i.e.*, in the bore) and of fixing the plummet and needle at their natural indications, as in the bore, and thus indicate the angle and bearing of the phials of the guide tube, and consequently of the borehole itself, at the depth reached by the phials. The technical name for the phials is "self-registering compass clinometer." A core extractor is attached below the guide tube and grasps the lowest phial. When the extractor is unscrewed, this phial enables the extractor and the core it contains, or has brought up, to be placed in the true position, both as to the inclination and bearing it had below. This information is of great value to those on whose behalf a bore is being made, since it forms a guide as to the proper site for the next bore, shaft, or level to be made. The phials being brought to the surface, what is called "the recording instrument," which is a sort of modified theodolite or altazimuth instrument, supplies the means of replacing the phials, one by one, in the exact position, both as to inclination and bearing, which they had in the borehole, and of reading the angles of inclination and magnetic bearing from the vertical and horizontal arcs or graduated circles; the mean reading of the six phials being accepted as the true indication. A safety cord is passed down with the piping or rods and attached to the guide tube, to support it while the rods are being screwed together length by length. The distance at which this cord is found saturated will indicate the depth at which water will be met with in sinking the shaft or well. The cost of each complete apparatus is from £100 to £120 for a $1\frac{3}{4}$-inch drill For larger drills the cost is rather more. The Victorian Government, after an exhaustive test, has now one of the apparatus attached to each drill, and its great practical usefulness as a check is being manifested in the sinking of every bore. There is little loss of time in using the test, as it can be lowered after work has ceased for the day, and, being allowed to set during the night, can be raised and inspected in the morning before recommencing work.

CLASS LXXXIX.—OCEAN, COAST, AND RIVER NAVIGATION, AND SHIPWRIGHTS' MACHINERY.

MITCHELL AND ELLIOT, [illegible]ke Street West, Melbourne.—Model of Mechanical Combination of Rotatory Machinery for removing Barnacles, Slime, and other Fouling on Ships' Bottoms, without Docking. To be called the "Ships' Sub-marine Anti-fouling Machine."

WATTS, WALTER KEEVIL, Keevelside House, St. Helier's Street, Abbotsford, Melbourne.—Model of Torpedo Boat, showing horizontal water lines.

CLASS XC.—CARRIAGES AND VEHICLES, WHEELWRIGHTS' WORK.

BALLARAT CARRIAGE COMPANY, Armstrong Street, Ballarat.—Buggy, single, with moveable top. Made specially for Indian use.

GILES, ERNEST, F.E.G.S., Kew, Melbourne.—Buggy, fitted for private use, for pair of horses.

STEVENSON AND ELLIOT, Carriage Builders, 181 King Street, Melbourne.—Pair of dapple-grey carriage horses, modelled in wood (life-size); shown in conjunction with buggy exhibited by Ernest Giles.

WHITE, DANIEL, 245, Swanston Street, Melbourne.—Phæton, light Stanhope, with lever hood, trimmed morocco and cloth, and best enamelled leather; pole, shafts, lamps, and brake complete. Specially designed and constructed by the maker for the Calcutta Exhibition.

CLASS XCI.—WORKSHOP MACHINES AND TOOLS.

DANKS, JOHN, 42, Bourke Street West, Melbourne.—

Suet lubricators.
Drop light lubricator.
Steam whistle.
Organ whistle.
Set Bailey gauge mounting.
Set of pet cocks.
$\frac{1}{2}$", $\frac{3}{4}$", 1", 1$\frac{1}{4}$" wheel valves.
$\frac{1}{2}$", $\frac{3}{4}$", 1", 1$\frac{1}{4}$", 1$\frac{1}{2}$" steam cocks, M. and F.
2", 2$\frac{1}{2}$", 3" flange cocks, packed glands.
1$\frac{1}{4}$", 1$\frac{1}{2}$", 2" check valves.
1$\frac{1}{4}$", 1$\frac{1}{2}$", 2" capped top steam cocks.
1$\frac{1}{4}$", 1$\frac{1}{2}$", 2", 2$\frac{1}{2}$" Peet's valves.
Compo. pipes, $\frac{1}{4}$", $\frac{3}{8}$", $\frac{1}{2}$", $\frac{5}{8}$", $\frac{3}{4}$", $\frac{7}{8}$", 1 inch diameter.
Lead pipes, $\frac{1}{2}$", $\frac{3}{4}$", 1", 1$\frac{1}{4}$", 1$\frac{1}{2}$", 2", 2$\frac{1}{2}$", 3", 4 inch diameter.

CLASS XCII.—BRASS FINISHING, BLACKSMITHS' WORK, LOCKS, SAFES, &C.

DOUGLAS AND SONS, 100 Collins Street East, Melbourne.—

Two five-light gasaliers.
Two gas brackets, complete.

FORLEY, JOSEPH FREDERICK, 113 Rathdown Street, Carlton, Melbourne.—Horse shoes, hand made. Bullock shoes, hand made.

MCKINNON, JOHN, Mansfield.—Horse shoes; one set polished, one set plain.

MITCHELL, GRAHAM, Kirk's Horse Bazaar, Melbourne.—Horse shoes, Graham Mitchell's "Anti-concussive."

The ground surface of the shoe is deeply grooved for the reception of an elastic pad to prevent concussion—the cause of nine-tenths of the lameness in horses—and gives the foot a firmer hold of the ground, especially on metal roads or pavements. The pad may be left out when the horse is only required to work on bush roads or soft ground. The groove also lightens the shoe, which, having three clips instead of one, and four nail holes instead of seven or eight, is easily applied, and injury to the foot from splitting of the wall is reduced to a minimum. The bearing surface of the shoe is perfectly flat, which enables the sole to bear a proportionate amount of weight.

The application of the shoe is very simple, as it is only necessary to make a level-bearing surface on the foot with the rasp, and does away with the necessity of heating the shoe, or paring the sole-frog or bars, or otherwise interfering with the natural form of the foot.

CLASS CII.—FIRE ENGINES, EXTINCTEURS, PUMPS, CRANES, GAUGES, REGISTERING INSTRUMENTS.

DANKS, JOHN, 42 Bourke Street, West. Works, Yarra Bank, South Melbourne.—
Water lifter, improved patent.
Double-barrel pump.
Pump on frame.
Gresham's injectors.
Ejectors.
Hydrant, improved.
Directors.
Pair unions, fire brigade.
1″, 1¼″, 1½″, 2″ stop cocks, H.P. for iron.
1″, 1¼″, 1½″, 2″ bib cocks, H.P. for iron.
1¼″, 1½″ ball cock, equilibrium.

SECTION H.—FOOD PRODUCTS.

CLASS CX.—TEA.

ORIENTAL TEA COMPANY, 144, 146, 148 Flinder's Lane West, Melbourne.
Exhibits showing process of tea blending, &c:—
Challenge mixture, second quality.
Royal mixture, first quality.
Standard mixture, second quality, with green.
Universal mixture, third quality.
Viceroy, first quality, pure Indian Pekoe.
Rajah, second quality, pure Indian Pekoe and Souchong.

CLASS CXIV.—CHOCOLATE AND COCOA.

BATES, CHARLES, 243 Albert Street, Melbourne.—Cocoa Essence, Dandelion Cocoa.

CLASS CXV.—BREADSTUFFS AND ARTICLES MADE THEREFROM.

DANELLI, SEBASTIAN, Sydney Road, Brunswick, Melbourne.—Preparations of pressed flour.
SWALLOW AND ARIELL, Sandridge, Melbourne.—
Grand trophy, containing biscuits, cakes, flour, wheatmeal, treacle, &c.

CLASS CXVI.—ARROWROOT, TAPIOCA, SAGO.

COCHRANE, R. AND J., Eastwood, Bairnsdale, Gippsland.—Arrowroot, grown on the River Mitchell, Gippsland.

CLASS CXVII.—BUTTER AND CHEESE.

CURRIE, JOHN, 5 Little Collins Street West, Melbourne.—Cheese, specially manufactured and packed for the Indian market.
HEIDELBERG CHEESE AND CONDENSED MILK COMPANY, LIMITED, Yarra Flats; offices, 61 Flinder's Street West, Melbourne.—Cheese for export.
HUTTON, J. G., 9 William Street, Melbourne.—Butter, prepared for the Indian market; cheese for export.

MELBOURNE MILK SUPPLY COMPANY, LIMITED, 70 Queen Street, Melbourne; J. FINNIGAN, Manager.—Cheese prepared for the Indian market.

WILSON, DAVID, Springvale Dairy, Mount Egerton, Ballarat.—Butter (fresh), in air-tight glass jars; cheese (Victorian Stilton), made with vegetable rennet to suit the native Indian market.

WOOD AND CO., 9 Market Street, Melbourne.—Butter, in 1lb. tins for export.

CLASS CXIX.—PRESERVED MEATS.

FLEMINGTON MEAT PRESERVING COMPANY, 12 Bond Street, Melbourne.—Tinned meats.

HUTTON, J. G., 9 William Street, Melbourne.—Bacon and ham, prepared for the Indian market.

WATSON AND PATERSON, Queen Street, Melbourne.—Bacon, middles, and ham packed for export. Fritz sausage.

WESTERN MEAT PRESERVING COMPANY, LIMITED, Colac, J. F. Farrington, Manager.—Tinned meats.

CLASS CXX.—PRESERVED SOUPS.

WESTERN MEAT PRESERVING COMPANY, LIMITED, Colac, J. F. Farrington, Manager.—Mulligatawny soup.

CLASS CXXII.—PRESERVED FRUIT AND VEGETABLES.

COKER, MRS. THOMAS, Ascot Vale, Melbourne.—Pickled grapes.

MELLON, FRANCIS, Dunolly.—Apples, pears, plums, and raisins.

OLDMEADOW, T. A., AND SON, Dunolly.—Apricots, peaches, plums, pears, preserved in syrup. Tomatos preserved in water.

UNITED SHIRE OF METCALFE, Metcalfe; W. C. Reeves, Secretary.—Fruit grown in Shire of Metcalfe.

CLASS CXXIV.—CONFECTIONERY.

DILLON, BURROWS AND CO., La Trobe Street West, Melbourne.—General assortment of confectionery, including specially prepared gum confectionery; glazed, crystallized, and preserved Victorian fruits, Victorian citron, orange, and lemon candied peel, and sugarcandy.

CLASS CXXV.—JAMS AND JELLIES.

RED CROSS PRESERVING COMPANY, LIMITED, Chapel Street, South Yarra, Melbourne; Marcus Rowbotham, Manager.—Jams from Victorian fruit, jellies specially prepared for export.

SPINK, E. J., AND S., 25, Market Street, Melbourne.—Jams, assorted fruits grown in Victoria, jellies, assorted, packed in air-tight tins, preserves, packed for export.

WALKER, J. H., AND SON, 203 Bourke Street, West Melbourne.—Jams, assorted, made from fruit grown in Victoria, Standard brand.

CLASS CXXVII.—ESSENCES AND EXTRACTS.

FELTON, GRIMWADE AND CO., 31 and 33 Flinder's Lane West, Melbourne.—Capsicene, gingerine, soluble essence of ginger, soluble essence of ginger ale, essence of orange, essence of bitter orange, essence of lemon, essence of cayenne, and essence of rennet (Thompson's).

CLASS CXXVIII.—PICKLES, SAUCES, CHUTNEYS, AND CURRY POWDERS.

BROWN, WILLIAM PIPER, Dandenong Road, Malvern, Melbourne.—Tomato sauces.

BROWNE, MONTAGUE, Lara Street, South Yarra, Melbourne.—Tomato sauce.

HARRIS, ALFRED A., Sutherland Street, Clunes.—Tomato sauce, bute sauce, and chutney.

LEWIS AND WITTY, 28 Flinder's Lane, Melbourne.—Curry powder.

PIERCE, W. C., AND SON, McIvor Road, Sandhurst.—Broccoli pickles, cauliflower pickles, chow-chow pickles, mixed pickles, onion pickles, piccallilli pickles, red cabbage pickles, Sultana pickles, Harvey's sauce, mushroom ketchup, tomato sauce, Victoria relish, Worcestershire sauce, and Yorkshire sauce.

RED CROSS PRESERVING COMPANY, LIMITED, Chapel Street, South Yarra, Melbourne; Marcus Rowbotham, Manager.
Pickles from Victorian grown vegetables.

WALKER, J. H., AND SON, 203 Bourke Street West, Melbourne.
Pickles made from vegetables grown in Victoria.
Sauces, specially prepared for export.

ZORN, EDWARD.—Oakleigh.
Tomato sauce. | Tomatoes preserved in various ways.

CLASS CXXIX.—ALE, BEER, AND PORTER.

AITKEN, THOMAS, Victoria Parade East, Melbourne.
Ale, brewed from malt. | Ale, bottled.
Ale, XXXX. | Porter, bottled.

FINDLAY AND SON, Abinger Street, Richmond.
Indian Pale, Ale, bottled. | Invalids' Ale, bottled.

LOAN, LEWIS, Walhalla, Gippsland.
Ale, Bitter, bottled, A. | Ale, Light, bottled.
Ale, Bitter, bottled, B.

MELBOURNE BREWING AND MALTING COMPANY, LIMITED, Carlton, Melbourne.
Ale, Pale, Bitter, brewed from malt, hops, and sugar. | Porter, XXX, brewed from malt and hops.
Stock Beer, brewed from malt and hops.

CLASS CXXX.—CIDER AND PERRY.

KITZ AND SON, Selborne Chambers, Chancery Lane, Melbourne.
Cider, or Apple Wine, from Victorian apples.

CLASS CXXXI.—WINES AND LIQUEURS.

AUSTRALIAN FREEHOLD LAND AND PRODUCE COMPANY (LIMITED); Arthur H. L. Browne, Secretary, Chateau Tahbilk Vineyard, Tahbilk, Lower Goulburn River, Victoria; Town Office, 85 Little Collins Street East, Melbourne.
Chablis, 1881, white, light, dry.
Pedro Ximenes, 1881, white dry.
Reisling, 1881, light, dry Hock.
Hock, 1878, light dry (blend).
Muscat, 1879, white, fruity.
Hermitage, 1881, red, full, dry.
Sunvignon, 1880, red, full, dry.
Carbinet, 1881, red, full, dry.
Claret (1st sample), light, dry, red (blend).
Claret (2nd sample), light, dry, red (blend).

BEST, HENRY.—Vine-grower, Concongella, Great Western.
Claret, 1880, light-bodied.
Frontignac, 1879, white, light-bodied.
Hermitage, 1879, red, full-bodied.
Hock, 1880, light-bodied.
Sauvignon, 1879, red.

BEST, JOSEPH.—Vine-grower, Great Western.
Claret, 1877, full-bodied.
Claret, 1878, full-bodied.
Hock, 1877, light and dry.
Hock, 1878, light and dry.

BOSISTO, JOSEPH, M.P., J.P., President of the Royal Commission for Victoria.
Eucalyptus liqueur, an aromatic and stomachic rarity, from the Victorian Eucalyptus Globulus.

BRACHE AND Co.—Wine Merchants, 112 Collins Street West, Melbourne.
Carbinet, 4 years old.
Hermitage, 4 years old, red.
Hermitage, 4 years old, red.
Hermitage, 4 years old, white.
Reisling, 10 years old.
Verdeilho, 6 years old.
Reisling, 2 years old, character of Hock.
Verdeilho, 5 years old.

BRENSING, G.—Vine-grower, Grholnung, Goulburn River.
Hermitage, 1882, red.

BRUHN, A.—Vine-grower, Emu Creek, Sandhurst.
Verdeilho, 1881, white fruity.
Verdeilho, 1882, white, fruity.
Madeira, 1881, white, dry.
Chasselas, 1882, dry.
Reisling, 1882, dry.
Carbinet, 1882, fruity, full-bodied.
Chasselas, 1882, dry, light.
Claret, 1881, dry, light.
Hermitage, 1881, red, dry.
Hermitage, 1882, red, fruity, full-bodied.
Pedro Ximenes, 1882, medium.
Claret, 1880, dry.
Hermitage, 1881, red, dry.
Hermitage, 1882, red, fruity.
Carbinet, 1882, fruity.
Madeira, 1880, white, fruity, full-bodied.
Pedro Ximenses, 1882, white, full-bodied.
Reisling, 1882, white, dry.
Verdeilho, 1882, white, fruity, full-bodied.
Verdeilho, 1882, white, fruity, full-bodied.

BUCHANAN, C.—Vine-grower, Vine Bank, Ondit.
Carinet, 1883, dry, full-bodied.
Hermitage, 1883, white, dry, full-bodied.

CALDWELL AND Co.—Wine Merchants, Collins Street West, Melbourne.
Chablis, 4 years old, Crown brand.
Claret, 4 years old, Australian Chatean Margaux.
Claret, 4 years old, No. 1 Crown brand,
Claret, 4 years old, Australian St. Julien.
Constantia, 7 years old, red crown brand.
Hermitage, 5 years old, red, crown brand.
Hermitage, 4 years old, breakfast crown brand.
Port, 6 years old, No. 1 Australian, fruity, crown brand.
Port, 9 years.
Reisling, 6 years old, crown brand.
Reisling, 5 years old, a full-bodied hock wine, crown brand.
Sherry, 9 years.

CAUGHEY, A. AND R., Vine-growers, Mount Pine, Murray River; Offices, Yarra Bank, Melbourne.—Claret, 1878, carbinet. Hermitage, 1878, red. Hermitage, 1879 red. Hock, 1878, Reisling. Muscatel, 1878, red. Muscatel, 1879, red. Mataro, 1879. Reisling, 1879. Pedro, Ximenes, 1878. Port, 1877, heavy strong Shiraz. Shiraz, 1879. Verdeilho, 1879, Maduro.

COSTELLOE, P. H., Vine-grower, Dunolly.—Hermitage, 1883, red, dark.

CRAIKE, THOMAS, Vine-grower, Bowmont, Axe Creek, Sandhurst.—Dolcette, 1882, red. Hermitage, 1881, red, No. 1. Hermitage, 1882, red, No. 2.

DALY, H. B., Vine-grower, Dalysville, Dunolly.—Hermitage, Pineau and Mataro varieties blended.

DAVIES, JOHN, Vine-grower, Ngarveno, Moonee Ponds, Melbourne.—Claret, 1879. Hermitage, 1879, red. Hock, 1880. Hock, 1881.

DECASTELLA AND ROWAN, Vine-growers, St. Hubert's County, Evelyn: Office, Collins Street West, Melbourne.—Burgundy, 1881, resembling French Burgundy. Chasselas, 1879, resembling Chablis. Hermitage, 1879, red,

resembling a rich Burgundy. Hermitage, 1879, white, resembling or Barsac Sauterne. Reisling, 1878, resembling German Hock. Reisling, 1879, resembling German Hock. Sauvignon, 1879, red, resembling chauteau lafitte.

EADIE, JOHN, Vine-grower, Ben Eadie, Sunbury.—Hermitage, 1882.

FITZGERALD AND NEWMAN, Wine Merchants, Castlemaine.—Verdeilho.

FOX, A. W., Vine-grower, Emu Creek, Bendigo.—Carbinet, 1880. Hermitage, 1879, red. Verdeilho, 1880. white.

FULTON, E. GRAHAM, Vine-grower, Echuca; offices, 30 and 32 Collins Street East, Melbourne.—Reisling, 1881. Verdeilho, 1879.

GEMMELL, JOHN, Vine-grower, Fair Lawn, Wooragee, Beechworth.—Shiraz, 1883, dry. Muscatel, 1883, sweet.

GIANETTI, BAPTISTA, Vine-grower, Lombardy Vineyard, Bealiba.—Hermitage, red.

GROSSE, FREDERICK, Vine-grower, Tooronga, Sandhurst.—Carbinet. Grenache. Hermitage. Malbec. Pedro Ximenes. Reisling, 1880. Tokay, 1880, Verdeilho.

JOHNSTON, JAMES STEWART, Vine-grower, Craiglee, Sunbury.—Hermitage, 1877, red, dry, with about 20 per cent. natural alcohol. Hermitage, 1879, red, dry, with about 20 per cent. natural alcohol. Hermitage, 1872, red. Hermitage, 1870, red. Hock, 1878, dry, with about 18·6 per cent. natural alcohol. Verdeilho, 1876, white, medium dry.

JONES, WILLIAM, Vine-grower, Janesfield, Wedderburn.—Burgundy, 1880, full-bodied.

KAHLAND, JOACHIM, Vine-grower, King Street, Sandhurst.—Carbinet, 1877. Burgundy, 1877. Hermitage, 1881. Reisling, 1881. Verdeilho, 1880.

KITZ, LOUIS, AND SON, Wine Merchants, Selborne Chambers, Chancery Lane, Melbourne.—Grenache, 1878, Hermitage, 1879. Hock, 1879. Muscat, 1879. Pedro Ximenes, 1879. Reisling, 1879.

KUBBLE, ROBERT, Vine-grower, Rosenthal, Sunbury.—Chaselas, 1879, light dry. Hermitage, 1879, red. Hermitage, 1881, red, Reisling, 1879, light dry.

LOGAN, DUNCAN, Wine Merchant, Argyle Street, Rutherglen.—Aucarot, 1880. Carbinet, 1880. Reisling, 1878. Shiraz. 1880.

MANNES, ANTHONY, Vine-grower, Strathfieldsaye, Axe Creek, Sandhurst.—Chasselas. Dolcette, 1871. Hermitage. Verdeilho.

MCBEAN, WALTER, Vine-grower, Marangan, Benalla.—Chasselas, 1881. Hermitage, 1882. Muscatel, 1880. Shiraz, 1881. Tokay, 1881.

MELLON, FRANCIS, Vine-grower, Tivoli, Dunolly.—Hermitage, red, Muscatel, Reisling. Verdeilho.

MORRIS, G. F., AND SONS, Vine-growers, Fairfield, Brown's Plains, Plains, Murray River.—Carbinet. Muscatel. Pedro, white. Port. Reisling. Sherry, dry, pale. Shiraz. Verdeilho, pale.

MUELLER, AUGUSTUS, M.D., Vine-grower, Yackandandah.—Shiraz, 1878, full-bodied. Verdeilho, 1880, dry, white.

POHL, CARL, Vine-grower, Emu Creek, Strathfieldsaye:—Carbinet, 1882. Hermitage, 1878, red, full-bodied. Reislings 1880, light bodied. Verdeilho 1879, white, full-bodied.

REAU, CAMILLE, Vine-grower, Tuileries, Sandy Creek, Wahgunyah.—Carbinet 1881, sweet, very rich. Reisling, 1881, dry.

RITCHIE, BROTHERS, Vine-growers, Murgheboluc, Geelong.—Hermitage, 1879, red, dry, full-bodied.

RUTHERGLEN AND MURRAY, District Vine-Growers' Association, Rutherglen.

Fraser, Hugh, Olive Hill, Brown's Plains.—Verdeilho, 1881, white.

Hughes, William, Quandong, near Rutherglen.—Muscet of Alexandra, 1883. Shiraz, 1883.

Graham Bros., Netherby, Rutherglen.—Gouais, 1883. Reisling, 1883. Rousillon, 1883. Shiraz, 1882, dry. Shiraz, 1882, sweet. Tokay, 1882.

Jack, Robert, Silverburn, near Rutherglen.—Reisling, 1883. Shiraz, 1883.

SMITH, GEORGE S., Vine-grower, All Saint's, Wahgunyah:—Carbinet, 1878, dry. Chasselas, 1878, dry. Hermitage, 1878, dry. red, Pedro Ximenes, 1878.

Malbec, 1878, dry, red. Pedro Ximenes, 1878, dry, white. Reisling, 1878, dry. Carbinet, 1869.

SMITH, J. AND C., Vine-growers, Munaadda, Barnawartha.—Hermitage, 1880, red, full-bodied. Reisling, 1880, dry. Reisling, 1880, full-bodied, fruity.

TRIMBLE, ROBERT, Mount Nebo Vineyard, Rutherglen.—Reisling.

TRINKAUS, ALBERT, Vine-grower, Wintergarten, Muckleford.—Hermitage. Reisling.

TROUETTE AND BLAMPIED, Vine-growers, St. Peter's Vineyard, Great Western.—Hock, 1882, Reisling, 1883. Sauterne 1881, Chablis, 1883. Hermitage (red), 1883. Claret, 1883. Claret, No. 1, 1881. Burgundy, 1882.

VICTORIAN CHAMPAGNE COMPANY, LIMITED; W. B. Rodier, Secretary, Eastern Market, Melbourne:—Champagne, Creme de Bouzy, made from Victorian grapes. Champagne, Parle d'Australie, made from Victorian grapes.

CLASS CXXXII.—SPIRITS.

AITKEN, THOMAS, Victoria Parade East, Melbourne.—Rum in cask, Whisky in cask, Spirits of Wine in cask.

CURTAIN, JOHN, Australian Cognac Distillery. Falls Bridge, Yarra Bank, Melbourne.—Brandy, bottled, from Victorian Wine. Whisky, bottled, from Australin Malt. Geneva, bottled. Rum, bottled.

FITZGERALD AND NEWMAN, Castlemaine:—Geneva, bottled. Whisky, bottled.

SCOTCH DISTILLERY COMPANY, Bay Street, Sandridge, Melbourne.—Whisky, bottled, manufactured from Malt only.

SMITH GEORGE SUTHERLAND, All Saints' Vineyard, Wahgunyah.—Brandy, bottled, distilled by Exhibitor.

TROUETTE AND BLAMPIED, Vine-growers, St. Peter's Vineyard, Great Western.—Pale brandy, distilled at the vineyard in 1880.

CLASS CXXXIII.—CORDIALS AND SYRUPS.

GREENE, SAMUEL AND CO., Young and Moore Streets, Fitzroy, Melbourne.—Staughton bitters, orange bitters, quinine bitters, lemon bitters, hop bitters, tonic wine, peach bitters, you'll do bitters, S. S. bitters, red cinchona bark bitters, orange gin, milk punch, Sq. Sarsaparilla, ginger brandy, ginger wine, sarsaparilla cordial, limejuice cordial, limejuice, raspberry vinegar, quinine wine, cloves, peppermint, black currant wine, red current wine.

HOPPER, THOMAS, Snake Valley, Carngham.—Milk-punch liqueur.

HOP BITTERS MANUFACTURING COMPANY, 129 Spring Street, Melbourne.—Hop Bitters, made in Victoria.

McLEAN, E., AND SONS, Bridgewater.—Cordials, various. Syrups, various.

ROWLANDS, E., 116 and 118 Collins Street West, Melbourne; Factory, Ballarat:—noyeau, maraschino, curacoa, rhatang, bitters, orange bitters, aromatic bitters, ginger wine, ginger brandy, pine apple syrup, limejuice syrup, raspberry vinegar, lemon syrup.

SCHWERKOLT, AUGUST, Nunawading, near Ringwood:—Cherry wine.

CLASS CXXXIV.—AERATED AND MINERAL WATERS.

CLIFTON MINERAL SPRINGS COMPANY, LIMITED, Drysdale.—Mineral waters, seltzer water, soda water, magnesia and iron water, clifton water.

LOAN, LEWIS, Walhalla, Gippsland.—Soda water, seltzer water, lemonade ginger ale, fluid magnosia.

ROWLANDS, E., 116 and 118 Collins Street West, Melbourne; Factory, Ballarat.—Lithia water, soda water, seltzer water, potass water, magnesia water, apollinaris water, carlsbad water, tonic water, ginger ale, lemonade, sarsaparilla, ginger beer, ballan seltzer, vigorine (pints), and vigorine (quarts).

CLASS CXXXV.—VINEGAR.

CAIN, HENRY, 18 a'Beckett Street, Melbourne.—Pure malt vinegar.
MELLON, FRANCIS, Dunolly.—Vinegar made from wine.
TROUETTE AND BLAMPIED, Vine-growers, St. Peter's Vineyard, Great Western.—Vinegar, white.

CLASS CXXXVI.—OTHER PRODUCTS NOT SPECIFIED.

HEIDELBERG CHEESE AND CONDENSED MILK COMPANY, LIMITED, Yarra Flats; offices, 6 Flinder's Street West, Melbourne.—Condensed milk.
LEWIS AND WHITTY, 28A Flinder's Lane, Melbourne.—Baking powder, egg powder.
MELBOURNE MILK SUPPLY COMPANY, LIMITED, Romsey.—W. T. Moffat, Manager, 59 Queen Street, Melbourne.—Preserved milk.

SECTION I.—AGRICULTURE AND HORTICULTURE

CLASS CXXXVII.—COLLECTIONS OF AGRICULTURAL PRODUCTS.

BOARD FOR PROTECTION OF ABORIGINES.—Hops grown at Coranderrk Aboriginal stations.
COLLINS, SAMUEL, Devon Farm, Bridgewater, Loddon.—Wheat, purple straw variety.
DEPARTMENT OF AGRICULTURE; Hon. J. F. LEVIEN, M.P., Minister; D. E. Martin, Secretary.—Wheat: Port McDonnel, Frampton, purple straw, red straw, white tuscan, rattlin tom, white lamas. Oats: Short, Tartarian, Milling, Polish, Danish, Tartarian, Canadian. Barley: Battledore, Cape, English. Rye. Buck wheat. Maize. Field pease: white, dun. Millet. Linseed. Beet: sugar, silver.

Case containing samples of productions from experimental farm, dookie, viz:—

Eight samples of wheat—purple straw and white lamas—grown four seasons in succession. Coriander seed. Italian rye grass seed. Canary seed. American broom corn seed. Almonds. Castor oil beans. Olive oil.

GEELONG AND WESTERN DISTRICT AGRICULTURAL AND HORTICULTURAL SOCIETY: Geelong; C. Craike, Secretary.—Grain, pease, roots.
HARRIS, ALFRED A., Sutherland Street, Clunes.—Mangolds, globe.
LEWIS, MINCHIN, BALLYROGAN.—Oats: short, sandy, or milling.
MAXWELL, DANIEL, Cohuna.—Wheat grown on clay soil, wheat grown on the mallee scrub land.
MELBOURNE BREWING AND MALTING COMPANY, Carlton.—Hops.
NATIONAL AGRICULTURAL SOCIETY OF VICTORIA, Bourke Street West, Melbourne; J. Gibb, M.L.A., President; T. Patterson, Secretary.—
Brunton, Thomas, Spencer Street.—Wheat (two varieties).
Burston, S., and Co., Maltsters, Melbourne.—Barley for malting.
Derham and Co., Market Street.—Wheat, oats, barley, pease
Grant and Cameron, Bourke Street.—Wheat, purple straw, grass cocksfoot.
Latham, E., Carlton.—Hops.
New Zealand Loan and Mercantile Agency Company, Limited, Collins Street West.—Wheat for export.
NICHOLLS, R. U., AND Co., 28 Armstrong Street, Ballarat.—Agricultural seeds (56 varieties), flower seeds (56 varieties), tree and shrub seeds (56 varieties), vegetable seeds (56 varieties).
POLSON, ANGUS, Marydale Farm, Moyston.—Wheat, Frampton. Oats Tartarian feed. Oats, sandy, milling. Rye. Barley, cape.

ROBERTS, JAMES, F., York Nursery, Union Street, Kew, Melbourne.—Group of Epiphytal orchids.

SMITH, GEORGE, 41 Armstrong Street, Ballarat.—Grass seeds (various), grain, pease.

TRIMBLE ROBERT, Rutherglen.—Wheat.

WEST BOURKE AGRICULTURAL SOCIETY; President Hon. Sir W. J. Clarke, Bart; Secretary, N. J. Thomas, Romsey.—
Birney, Robert, Romsey.—Potatoes, pink-eyed variety.
Campbell, Lachlan, Romsey. Potatoes (two varieties).
Conway, Patrick, Lancefield. Barley, English. Pease, Dun. Potatoes.
Grant, William, Rochford. Oats, Tartarian.
Lockwood, James, Lancefield. Barley, English.
Morrison, James, Monegatta. Chicory root.

WIMMERA DISTRICT AGRICULTURAL AND PASTORAL SOCIETY, Dimboola, J. Fisher, Secretary.—Wheat (prize), grown in the Wimmera district.

CLASS CXXXVIII.—COLLECTIONS OF HORTICULTURAL PRODUCTS.

HORTICULTURAL SOCIETY OF VICTORIA, Experimental Gardens, Survey Park, Richmond; Secretary, Miller Street, Fitzroy. Collection of fruit.

LANG, JAMES, Tlabot Nursery, Harcourt.—Apples, fourteen varieties, namely—Stone pippin, cleopatra, Newton pippin, lemon pippin, French crab, gooseberry, sturmer pippin, rymer, Stephenson's winter, hall, Munroe's favourite, Dunn's seedling, Donaldson's seedling, Simmond's winter.

MUELLER, BARON VON, K.C.M.G., M. & PH.D., F.R.S., Government Botanist, Melbourne.—Album of some Australian flowers not yet introduced into horticulture. Set of dried specimens of plants of extensive utilitarian value.

CLASS CXXXIX.—PROCESSES, IMPLEMENTS, AND MACHINES USED IN CULTIVATION.

COCKERELL, ROBERT,—22 Elizabeth Street North, Melbourne.
Cockerell's Patent Cross Cultivators and Pulverisers.

MILLER, JOSEPH,—123 Lonsdale Street West, Melbourne.
Aqueous, Oleaginous, Gelatinous, and Solid Preparations for the Preservation and Eradication of Diseases in Vines, Fruit Trees, Shrubs, &c.

SMITH, ROBT.,—25 Bouverie Street, Carlton, Melbourne.
Set of Diamond Metal Riddles, used for cleaning wheat in winnowing machines.

CLASS CXLI.—PROCESSES, IMPLEMENTS, AND MACHINES USED FOR IRRIGATION.

FLOOD, FREDERICK,—139 Lonsdale Street West, Melbourne. Water Lift, Flood's Improved. Water Lift, Portions of. Tank, Portable.

CLASS CXLII.—GARDEN FURNITURE, FOUNTAINS.

McEWAN, JAMES, AND CO., Wholesale and Manufacturing Ironmongers, Elizabeth Street, Melbourne. Bronze Fountain, 10 feet high, lent by the firm to the Royal Commission for Victoria.

SECTION K.—ETHNOLOGY, ARCHÆOLOGY, AND NATURAL HISTORY.

CLASS CXLIV.—ETHNOLOGICAL COLLECTION.

BOARD FOR PROTECTION OF THE ABORIGINES,—Melbourne; General Inspector Captain A. M. Page.

War Spears. Boomerangs. Woomeras. Spear Shields. Malkas. Waddies. Leangles.

CLASS CXLVIII.—COLLECTIONS OF ANIMALS AND BIRDS, STUFFED, &c.

NATIONAL MUSEUM OF VICTORIA,—Professor McCoy, F.R.S., Director, Melbourne.

COLLECTIONS OF NATURAL HISTORY.

Case of Mounted Specimens, Victorian *Zoology*. :—

Phascolaretos cinereus (the native bear).
Herodias alba (the white crane).
Podiceps Australis (the black-throated grebe).
Podiceps gularis (the black-throated grebe).
Alcyone azurea (the Azure Kingfisher).

Case of Mounted Specimens, Victorian Birds :—

Ptilonorhynchus holosericeus (the black Satin bird).
Ochthodromus bicinctus (double-banded Dottrel).
Lathamus discolor (swift-flying Lorikeet).
Meliphaga melivora (brush Wattle bird).
Erythrodryas rhodinogaster (Pink-breasted Wood Robin).
Platycercus eximius (Rosella Parrot).
Grallina picata (Pied Grallina).
Stipiturus malachurus (Emu Wren).
Nymphicus Novæ Hollandiæ (Coquette Parrakeet).
Meliphaga phrygia (Warty-faced Honey-eater).
Calyptorhynchus funereus (Black Cockatoo).
Euphema elegans (Elegant Grass Parrakeet).
Meliornis longirostris (Jew Honey-eater).
Platycercus Pennantii (Red Lory).
Glossopsitta pusilla (Little Lorikeet).
Epthianura albifrons (White-fronted Honey-eater).
Estrelda bella (Fire-tail Finch).
Pardalotus striatus (Striated Pardalote).
Pachycephala glaucura (Grey-tailed Pachycephala).
Merops ornatus (Australian Bee-eater).
Lichmera Australasiana (Tasmanian Honey-eater).
Cacatua galerita (Sulphur-crested Cockatoo).
Dacelo gigas (Laughing Jackass).
Phaps elegans (Scrub Bronze-wing Pigeon).
Gymnorhina leuconota (White-backed Magpie).
Oreocincla lunulata (Mountain Thrush).
Todirhamphus sanctus (Sacred Halcyon).
Actodromas Australis (Little Sandpiper).
Petroica multicolor (Scarlet-breasted Robin).
Ochthodromus inornatus (Allied Dottrel).
Falcunculus frontatus (Frontal Shrike-tit).
Malurus cyaneus (Superb Warbler).
Menura Victoriæ (Lyre Bird).

Mounted Specimens :—

Macropus major (the Forester Kangaroo).
Oligorus Macquariensis (the Murrsy Cod Perch).

MAMMALS.

Specimens in Skin :—

Betongia cuniculus (Kangaroo Rat).
Belideus breviceps (short-headed Belideus).
Belideus flaviventer (long-tailed Belideus).
Dasyurus maculatus (tiger cat).
Dasyurus vaverrina (native cat).
Echidna hystrix (Porcupine ant-eater).
Halmaturus Billiarderi (short-tail Wallaby).
Halmaturus ualabatus (bush-tail Wallaby).
Hydromys chrysogaster (Golden-bellied water rat).
Macropus major (Forester Kangaroo).
Ornithorhynchus paradoxus (the Platypus).
Phalangista viverrina (Ring-tail Opossum).
Phalangista vulpina (common Opossum).
Pteropus poliocephalus (Vampire Bat).
Phascogale penicillata (Brush-tail Phascogale).
Perameles Gunnii (Gunn's Bandicoot).
Perameles obesula (short-nosed Bandicoot).
Phascolaretos cinereus (native Bear).
Phascolamys platyrhinus (the Wombat).

BIRDS.

Anthochæra carunculata (wattle bird).
Acanthorhynchus tenuirostris (spinebilled honey-eater).
Astur approximans (Australian goshawk).
Alcyone azurea (Azure kingfisher).
Colluricincla harmonica (harmonious colluricincla).
Climacteris leucophæa (white-fronted tree-creeper.
Chætura caudacuta (Australian spine-tailed swallow).
Cassidix Leadbeateri (Leadbeater's honey-eater).
Dacelo gigas (Laughing Jackass).
Dicæum hirundinaceum (Swallow Dicæum).
Euphema aurantia (orange-bellied grass Parrakeet).
Eopsaltria Australis (yellow-breasted Scrub Robin).
Elanus scriptus (letter-winged kite).
Epthianura tricolor (tricoloured Epthianura).
Erythrodryas rhodinogaster (pink-breasted Robin).
Estrelda bella (fire-tailed finch).
Falco lunulata (lunulated Falcon).
Falcunculus frontatus (frontal Shrike-tit).
Graucalus melanops (black-faced Graucalus).
Glossopsitta Australis (musky Lorikeet).
Gymnorhina leuconota (white-backed Magpie).
Grallina picata (pied Grallina).
Hieracidea Berigora (brown Hawk).
Lamprococcyx procasus (thick-billed Bronze Cuckoo).
Leucospiza Raii (white Hawk).
Lichmera Australasiana (Tasmanian Honey-eater).
Lathamus discolor (swift-flying Lorikeet).
Meliphaga melivora (Brush or Mock Wattle Bird).
Meliornis Novæ Hollandiæ (new Holland Honey-eater).
Melithreptus lunulata (lunulated Honey-eater).
Menura Victoriæ (Victorian Lyre Bird).
Microeca macroptera (great-winged Microeca).
Malurus cyaneus (Superb Warbler).
Oreocincla lunulata (Mountain Thrush).
Paradalotus punctatus (spotted Pardalote).
Pezoporus formosus (ground Parrakeet).
Ptilonorhynchus holosericeus (black Satin Bird).
Petroica multicolor (Scarlet-breasted Robin).
Petroica Phœnicea (Flame-breasted Robin).
Platycercus Pennantii (red Lory).
Pachycephala melanura (black-tailed Pachycephala).
Platycercus eximius (Rosella Parrot).
Recurvirostra rubricollis (red-necked Avocet).
Strix Novæ Hollandiæ (masked barn Owl).
Spiloglaux Boobook (boobook Owl).
Stipiturus malachurus (Emu Wren).
Trichoglossus Swainsonii (blue mountain Parrakeet).
Tinnunculus Cenchroides (Nankeen Kestril).

GRUNER, C. A., Assistant to Baron F. von Mueller, K.C.M.G., Government Botanist, Botanic Museum, Melbourne.

Collection of Victorian Fauna, viz:—

Native Cat.	Bat.	Snipe.
Water Rat.	Platypus.	Mopoke.
Squirrel.	Eagle-hawk.	Lyre-bird.
Native Bears.		

CLASS CXLIX.—OTHER NATURAL HISTORY SPECIMENS.

GRUNER, C. A., Assistant to Baron F. von Mueller, K.C.M.G., Government Botanist, Botanic Museum, Melbourne.

Collection of Victorian edible fish, in glass case, numbering about 50 different species.

Collection of beetles, numbering about 150 different species.

Collection of butterflies, numbering about 200 different species.

LEITH, THOMAS A. F., Augustus Cottage, Martin Street, Albert Park, Melbourne.

Stuffed birds, in case, being specimens of—

Dottrel.	Quail.	Rail.

WESTERN AUSTRALIA.

SECTION H.—FOOD PRODUCTS.

CLASSES CX TO CXXXVI.

MEYERS, J., AND CO., Albany.—Pale ale, ginger ale, beer, champagne cider.

Reg. No. 4741J—2,012—20-3-85.

VOLUME I.

PART III.

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CALCUTTA INTERNATIONAL EXHIBITION, 1883-84.

FOREIGN COUNTRIES.

AUSTRIA.

SECTION A.—FINE ARTS.

CLASSES I TO VI.

MILITARY AND GEOGRAPHICAL INSTITUTE, Vienna.—Heliogravures.
VIENNA COPYING SCHOOL.—Copies in oil colours.
T. SCHNELL & SON, Vienna.—A collection of original modern paintings by the following artists:—

A. Afahl. Greeting through the window.
R. Alott. View on the Sicilian Coast.
A. Battistuzzi. Interior from the Cathedral at Barcelona.
F. Beda. A game at billiards.
A. deBensa. Morning ride; Going to hunt; Perforce hunting.
C. deBlaas. Centaur robbing a nymph.
E. Boehm. Mountainous landscape in Switzerland; View in Switzerland; Spring, Summer, Autumn, Winter—the four seasons.
A. Chwala. Landscape near Hohenau, harvest-time; On the lake of Staffel in Bavaria; Landscape—approaching thunderstorm.
A. Crevatin. Jealousy.
L. Dill. Marine—evening; Marine—morning; Marine—harbour scene; Blonde; Brunette.
A. Ebert. Mutual instruction; Female head; Female head; Indiscretion; Female head; The two friends.
P. T. vanElven. Cheapside in London (water-colour drawing); Westminster Abbey in London (water-colour drawing).
L. Fay. Landscape with cattle.
E. Ferroni. A festival day.
H. Flockenhaus. Winter evening.
G. Fumi. Important discovery.
F. Gence. The likeness of H. M. the Emperor of Austria. Drawing on ivory.
F. George. Venetian girl.
G. Giovanni. The old fiddler; Old man's head.
G. Gorra. Village view in Upper Italy.
T. Hamza. A page.
C. Hasch. Woody landscape; Solitude in the wood.
Kaufmann. From the Dalmatian Coast; Coast scene from the Baltic Ocean.
A. Kronberger. Critical situation.
M. Lovatti. After the confirmation; Roman scenery.
C. deMalchus. View from the Riva Schiavoni at Venice.
U. Manaresi. Marine coast view on the Adriatic Sea.
T. Mansfeld. Still life; Still life.
C. Merck. Political discussion.
A. Milesi. The first proof.

E. Miller. Diversion in the cow-keeper's cottage.
H. Morheim. Coming home from school.
C. Mücke. The new home.
Th. Norman. Stormy sea on the coast of the German Ocean.
C. Onken. Autumn landscape.
O. Orfei. At the print-dealers.
H. Pöck. Still life; Still life.
G. Ranzoni. Herd of sheep on the Puszta, Hungaria.
A. Raudmitz. Love message.
F. Ruben. Scene from the Grand Canal at Venice.
A. Savini. Attending the favourites.
M. Schoedl. Still life.
H. Schuhly. Landscape; River landscape.
G. Seelos. View near Aquileja on the Adriatic Sea.
G. Spondini. Rose season.
R. Walter. The sleeping play-fellows.
A. Warlowski. Wallachian mail in winter.
T. Walter. Idyl.
T. Wolfram. Gipsy camp in Hungaria, winter; Gang of gipsies in Hungaria.
C. Zewy. Studio scene.
A. Zimmermann. Gulf of Baya, near Naples, morning; View of Amalfi, near Naples; Mountain brook near Ramsau, Upper Austria.

SECTION B.—EDUCATION AND APPLICATION OF THE LIBERAL ARTS.

CLASSES VII TO XV.

ROLLINGER F., Vienna.—Account books; stationery; book-binding.

SECTION C.—HEALTH.

CLASSES XVI TO XXII.

FABER FRATELLI, Trieste.—Insecticide powder.

SECTION D.—FURNITURE AND OTHER OBJECTS FOR THE USE OR DECORATION OF DWELLING-HOUSES AND OTHER BUILDINGS.

CLASSES XXIII TO XXXVII.

GEYLINGS CARL, Erben, Vienna.—Painted and stained glass.
KOHN JACOB AND JOSEPH, Teschen.—Bent wood furniture.
MEITZER KARL AND CO., Langenau.—Glassware.
NEHER EMIL, Villach.—Tinned enamelled ware.
RICHTER GUST. A., Wansdorf.—Flower; porcelain.
SILBIGER AND CO., Doobling, Vienna.—A daïs and other works in plain and inlaid marble, and mosaic cement or artificial marble.
THONET BROS., Vienna.—Bent wood furniture.

SECTION E.—FABRICS, INCLUDING OBJECTS OF PERSONAL WEAR OR USE.

CLASSES XXXVIII TO LII.

FRANK, JOSEF, Rossback, Bohemia.—Cotton and woollen shawls.
MUNCH, ADOLF, AND SOHN, Vienna.—Oriental fabrics; fez caps.

SECTION F.—RAW PRODUCTS AND MANUFACTURES FROM PRODUCTS NOT INCLUDED IN OTHER SECTIONS.

CLASSES LIII TO LXXXI.

ELLISSEN, ROHDER & Co., Vienna Paper Mills, Vienna.—Paper.

SECTION G.—MACHINERY AND IMPLEMENTS, MEANS OF TRANSPORT, &c.

CLASSES LXXXII TO CIX.

WEITZER (JOH.), Graz.—Carriages; phæton; landau.
KRAINISCHE INDUSTRIE GESELLSCHAFT, Laibach.—Carintian steel; files; rasps.

SECTION H.—FOOD PRODUCTS.

CLASSES CX TO CXXXVI.

FERRATO, G.—Maraschino.
HIRSCHLER, MORITZ, Budapest.—Mineral water.
KAHL AND Co., Krondorf, near Carlsbad.—Mineral water.
KANTOROWICZ, H., Posen.—Liqueurs.
KLEINOSCHEZ BROTHERS, Graz.—Sparkling and still wines.
LUXARDO, GUBOLAMO, Zara.—Maraschino liquor.
MATKOVIC, GIOV. QM. A., Knin.—Maraschino and other liquors and cordials.
STAMPALIA T., Zara.—Maraschino liqueur.
ULBRICH, ANTON, Pullna, Bohemia.—Mineral water.
VLAHOV, ROMANO, Sebenico.—Bitters; tonic.
VON NADOSY, KOLOMAN, Stz. Lorincz.—Hungarian wine.

SECTION I.—AGRICULTURE AND HORTICULTURE.

CLASSES CXXXVII TO CXLIII.

GANZ & Co., Budapest.—1 large crushing flour mill, 1 small crushing flour mill, low grinding mills.

BELGIUM.

SECTION A.—FINE ARTS.

CLASSES I TO VI:

MILITARY CARTOGRAPHIC INSTITUTE, BRUSSELS.—Photo-chromo lithography and heliogravеure.

SECTION D.—FURNITURE AND OTHER OBJECTS FOR THE USE OR DECORATION OF DWELLING-HOUSES AND OTHER BUILDINGS.

CLASSES XXIII TO XXXVII.

BEAGARD (W.), Brussels.—Marble mantlepieces.
COBBAERT & FILS, Grammont.—Matches.
OMNOZERZ (F.), 9 rue Maling, Brussels.—Marble clocks and ornaments.
STAES SPROCHANTS & Co., Levamonde.—Watches.
TREMOUROUX (N. & J.) BROTHERS, St. Gilles, Brussels.—Enamelled wrought-iron kitchen utensils and other metal goods.
WINDART, J., Jumet.—Table and glassware.
DE LOOPER MONNOYER & Co., Jumet.—Window glass, Bohemian and decorated glassware.

SECTION E.—FABRICS, INCLUDING APPAREL, &c.

CLASSES XXXVIII TO LII.

ASSOCIATION DE VERVIERS, Verviers.—Drapery, tweeds, flannels.
NICOLAS WILD AND BROTHERS, Ghent.—Cotton blankets.
SOCIETE ANONYME OF LOTH.—Merinos and zanellas.
VANDEWYNEKELE (CHS.), Ghent.—Linen, cotton, and jute thread.

SECTION F.—RAW PRODUCTS AND MANUFACTURES FROM PRODUCTS NOT INCLUDED IN OTHER SECTIONS.

CLSSSES LIII TO LXXXI.

DELMOTTE (BENOIT), Maria Kerke, Ghent.—White lead, dry.
DE SMET (LEON), Bouldvard du Bequinade, Ghent.—Ornamental tiles.
DE MAN (JEAN), Antwerp.—Cigars.
GORIS ET FILS, Turnhout.—Paper.
KOCH AND REIS, Antwerp.—Sulphur and soap.
MARTINY & Co., Brussels.—India rubber.
VAN DE WYNCKELE, Boulevard, Ghent.—Bleached yarns.

SECTION G.—MACHINERY AND IMPLEMENTS, APPLIANCES AND PROCESSES USED IN THE COMMON ARTS AND INDUSTRIES, &c.

CLASSES LXXXII TO CIX.

ALLAN & Co., American Tool Works, the Dam, Antwerp.—Tools, pick-axes, rollers, iron beams.
ATELIERS DE BRABANT, Molenbeek St. Jean.—Sugar cleaning machinery.
MONTEFIORE-LEVI (J.), Brussels.—Telegraph and telegraph lines.
SOCIETE ANONYME POUR LA FABRICATION DES CARTOUCHES ET PROJECTILES, Anderlecht, Rue de Gougans, Brussels.—Cartridges and balls.
SOCIETE ANONYME DES FORGES DE LA PROVIDENCE, Marchienne-au-Pont.—Iron goods.
SOCIETE ANONYME DES FORGES ET LAMINOIRES DE L'ALLIANCE, Marchienne-au-Pont.—Rolled and wrought iron.

SECTION H.—FOOD PRODUCTS.

CLASSES CX TO CXXXVI.

BANNE (CONSTANT), Anderlues.—Malts.
JOVENCEAU (A.), Tournay.—Chocolate and cocoa.
MEEUS (LOUIS), Antwerp.—Geneva, orange bitters, spirits of wine.

DENMARK.

SECTION H.

CLASSES CX TO CXXXVI.

KEIR (CARD), Copenhagen.—Butter.
LINDT, Copenhagen.—Sardines and herrings.

EGYPT.

SECTION F.

CLASSES LIII TO LXXXI.

GIANACLIS (N.), Cairo.—Cigarettes.

FRANCE.

SECTION A.—FINE ARTS.

CLASSES I TO VI.

BLOT, EUGENE, Dunkerque.—Groups of statues, in terra cotta, representing fishermen and their families.

SECTION B.—EDUCATION AND APPLICATION OF LIBERAL ARTS.

CLASSES VII TO XV.

BATAILLE, H., 18, Rue de Chabrol, Paris.—Oleographs, chromos, printed labels and cards of every description.

LEMAIRE, 22 and 26, Rue Oberkampf, Paris.—Optical instruments, opera glasses, telescopes.

SECTION C.—HEALTH.

CLASSES XVI TO XXII.

BAILLY AND CO., 22, Rue Drouot, Paris.—Pharmaceutical preparations, Quina-Laroche.

BARDOU, JOB, Rue St., Sauveur, Perpignan.—Cigarette paper.

BEAVAIS, RAOUL, Paris.—Drugs and medicines.

CHALLIOL AND CHARMETANT, Lyons and Calcutta.—Bonnefont natural mineral water.

CHASSAING AND CO., 6, Avenue Victoria, Paris.—Pharmaceutical preparations.

CHAUST, A., & Co., Place de l'Opera, Paris.—Tooth-powder, &c.

DAROUX, Paris.—Pharmaceutical preparations.

DECAGNY.—Pharmaceutical preparations.

FAURE, DR., The watering establishment, near Pratz de Molle, Pyrenées Orientales.—Mineral waters.

GOUARNE FRÉRES, Ponance.—Tonic wines.

HARDY AND MILORY, Rue Barbette, Paris.—Colors.

HEOTTOT, Paris.—Drugs and pharmaceutical preparations.

LECHAUX, MARIO, Bordeaux.—Rob-Lechaux, pharmaceutical preparations.

LIMOUSIN AND CO., Paris.—Pharmaceutical preparations.

PIERRE, DR. (A. Choüet et Cie.), 8, Place de l'Opera, Paris.—Dentifrice water and powders.

PILLET, DR. A., 62, Rue de Rivoli, Paris.—Medicines; medicinal biscuits.

RIGAUD, Paris.—Drugs and medicines.

RIGOLLOT, P., & Co., Paris.—Pharmaceutical preparations.

ROGERS DE L'ILLINOIS, Paris.—Pharmaceutical preparations.

VELPEY, C., 8 and 10, Rue St. Thomas, Reims.—Pharmaceutical preparations.

SECTION D.—FURNITURE AND OTHER OBJECTS FOR THE USE OR DECORATION OF DWELLING-HOUSES AND OTHER BUILDINGS.

CLASSES XXIII TO XXXVII.

BENARD, A., 5, Cité du Petit Thouards, Paris.—Crockery-ware, fancy boxes, bronzes, looking glasses, vases, &c.
BESSON, F., AND Co., 92, Rue d'Angouleme, Paris.—Musical instruments.
BIARDOT, 12, Rue Beaurepaire, Paris.—Unchanging crystal beads, gilt and silvered inside; imitation of coral.
BONTEMPS PERE AND FILS, 42, Rue de Cléry, Paris.—Cages and whistling birds.
CHARLES-JEAN, 17, Rue du Cygne, Paris.—Genuine enamel work, vases, boxes, &c.
DETEMMERMAN, 52, Rue de Paradis, Paris.—Looking glasses and fancy crockery-ware, China-ware, imitation flowers of great variety.
DUMET, L. J., Paris.—Decorative and upholstery silks.
LE COMTE, 220, Rue St. Martin, Paris.—Capsules and metal leaf materials of every description for corking bottles.
LEMAIRE, 22 and 26, Rue Oberkampf, Paris.—Marine, field, and opera glasses.
MAISON LEFAUCHEUX, H. Rieger, Successeur, 37, Rue Viviene, Paris.—Light hunting guns, rifles, saloon carbines and pistols; single and double breech-loaders of the latest French patents; great variety of revolvers.
PERROUX, F. A.—Moulden wooden pilasters.
SOCIETE DES LUNETTIERS, Rue des Gravilliers, Paris.—Optical instruments of every description.
THIERY-MIEG & Co., Paris.—Imitation tapestries, wool fabrics, printed crétonnes.

SECTION E.—FABRICS, INCLUDING APPAREL, TOILET REQUISITES, AND OTHER OBJECTS OF PERSONAL WEAR OR USE.

CLASSES XXXVIII TO LII.

CHALLIOL AND CHARMETANT, Silk manufacturers, Lyons, and 2, Barretto's Lane, Calcutta.—Silks.
DREYFUS FRERES, 35, Rue Meslay, Paris.—Jewelry manufacture.
DUMET, L. J., 19, Rue de la Sourdiére, Paris.—Embroidered furniture; silk stuffs.
FREY, 134, Rue du Temple, Paris.—Imitation jewelry and "Articles de Paris."
GRENET FRERES, 114, Rue du Temple, Paris.—Sterling silver jewelry, bracelets and silverware, &c.
HENRIET AINÉ, Rue Mercoeur, Paris.—Ladies and children's shoes, men's boots.
HENRY, A., Rue Thevenot, Paris—Muslins; silks and artificial flowers.
LEGRAND BROS., 8, Rue St. Joix, Paris.—Printings in relief on cloth and velvets; table covers; imitation of gold embroidery.
MARTIN, Rue des Archives, Paris.—Mechanical toys, swimming dolls, jumping frogs, &c.
PRETIN, A., 64, Rue de Rennes, Paris.—Ladies' fancy shoes and gentlemen's hunting boots.
REGAD FILS, 53, Rue Torbigo, Paris.—Imitation stones, diamonds, rubies, sapphires, &c.
REVEL FRERES, Lyons.—Umbrellas.
VERNIN AND Co., Paris.—Wax pearls.
ZIMMERLI, E., 110, Rue du Temple, Paris.—Unmounted rings of all descriptions for manufacturing jewellers.

SECTION F.—RAW PRODUCTS.

CLASSES LXXXII TO CIX.

CHAPELLE AND GOTTELAND, J., Paris.—Varnish.
HARDY AND MILORY, Paris.—Colors.
HORTOG, GEORGE AND Co., 112, Place Lafayette, Paris.—Varnish.

SECTION G.—MACHINERY AND IMPLEMENTS, MEANS OF TRANSPORT, APPLIANCES AND PROCESSES USED IN THE COMMON ARTS AND INDUSTRIES.

CLASSES LXXXII TO CIX.

ANGELIS, G. O.—Electrical machine for making ices and dragées.
CARRÉ, E.—Ammoniacal ice machine.
DANDOY MAILLARD LUCY & Co., Maubeuge.—Drilling machine with revolving pillar and swinging table and vice.
DECAUVILLE AINE, Petit Bourg.—Patent portable railway and rolling stock.
MIGNON AND ROUART.—Pneumatic ice machine.
PIAT, A., Paris.—Double action pump.
SENAMAUD, 116, Rue de Toulouse, Bordeaux.—Cutting machine for sausage meat, &c.
VIGNERON, H., Paris, manufacturer of sewing machines.—Sewing machines.

SECTION H.—FOOD PRODUCTS.

ACKERMAN, LAURANCE, Saumur.—Sparkling saumur.
ADET SEWARD AND Co., Bordeaux.—Claret and brandy.
ANGELIS, G. D., Maison Francaise.—French confectionery ; ices.
ANOTS FRÉRES, Cognac.—Brandy.
AYALA AND Co.—Champagne, Chateau D'Ay.
BARNETT AND SONS, Cognac.—Brandy.
BORDES, J. J., Bordeaux.—Brandy.
BRUCH, FOURCHER AND Co., Mareuil-sur-Ay.—Dry champagne, extra quality, monogram.
CABANES, J. J., Rouget Pommerol pres Libourne, Gironde.—Red wines.
CASSARI, GORDON AND Co.—Champagne.
CHARRIOL AND Co., PAUL, Bordeaux.—Clarets and sauternes.
COMPAGNIE FRANCO-SUISSE (SOCIETÉ LAITIÉRE DE L'EST), Besançon.—Condensed milk.
CUSENIER, Paris.—Liquors of every description.
DE LAAGE FILS AND Co., Cognac Distillery.—Brandy.
DELECLUSE, J., Reims.—Champagne.
DOMAINE DE NOJAC.—24 bottles of claret.
FOURCHÉ, J. B., Bordeaux.—Red wines, syrups, liqueurs.
FOURSIER, HENRI, AND Co., Bordeaux.—Clarets.
IERY, ERNEST, AND Co.—Côte d'Or champagne.
JOSEPH PERRIER FILS AND Co., Vineyard proprietors, Chalons-sur-Marne.—Champagne.
LALANDE, A., AND Co., Quadros Chatrons, Paris and Bordeaux.
MARTELL, J. AND F., Cognac.—Pale brandies.

MARTIN, F. L., AND Co., Surgeras.—Brandy.
OTARD DUPUY AND Co.—Brandy.
PERINET FILS, Champagne; Agents for India G. F. Kellner and Co., 5, Bankshall Street, Calcutta.
RAHN AND Co., Cognac.—Rum.
RALU FILS AND Co., Brandy manufacturers, 48, Rue d'Enghien, Paris.—Brandy.
ROBIN, JULES, AND Co., Cognac.—Pale brandies.
ROTUMEIL AND Co., Cognac.—Brandy, fine champagne, old brandy cognac.
SOCIETE EDWARD DE PRODUITS, Paris.—Preserved butter.
SOCIÉTÉ GÉNÉRAL DE PRODUITS ALIMENTAIRES, Paris.—Butter and preserved vegetables, sardines in oil.
THEOPHILE ROEDERER AND Co.—Champagne.
TOURTEL, P. AND E., Brasserie de Tantonville, Meurthe-et-Moselle.—Hop, malt-lager beer.
VIOLET FRERES, THUIR.—Wines, pyrrl, ribedine.
WACHTER AND Co., Epernay—Champagne.

COCHIN CHINA.

SECTION A.—FINE ARTS.

CLASS I.—PAINTINGS AND DRAWINGS.

POIGNAND, Saigon.—Annamite painting on glass (six panels).
GOVERNMENT, SAIGON.—Annamite painting on marble (eight panels).
HAVAN THANH, Sadec.—Drawing coloured view of the Sadec Regattas on the 1st of the Annamite year.

CLASS VI.—WORKS OF ART NOT SPECIFIED.

RACH-GIA DISTRICT.—Fans.

SECTION B.—EDUCATION AND APPLICATION OF LIBERAL ARTS.

CLASS VIII.—MAPS, CHARTS, AND GEOGRAPHICAL APPARATUS.

GOVERNMENT, SAIGON—

Cochin China maps (2 leaves), by Mr. Brossard de Corbigny.
Indo-China, East (1 leaf), by Mr. Dutreuil de Rheins.
Indo-China Map (4 leaves).
Map of the River Hué.
Plan of the town of Saigon.
Topographical plans of the districts of Baria Bentré, Bien-hoa, Gocong, Cholon, and of the twentieth district.

CLASS XII.—PRINTING AND BOOK-BINDING.

GOVERNMENT, SAIGON—

French Penal Code translated into Annamite.
Annamite Code translated into French by Mr. Philastre.
Annamite Code in Chinese characters.
Course of Chinese studies as pursued by the Law students of Saigon.
Symbolical or typical pronunciation of the Chinese characters.
Rules of procedure as practised by the Annamites and French regulations.
Rules of procedure translated into Annamite (Quoc-ngu).
Forestial flora from French Cochin China, by Mr. Pierre.
Reports to the Colonial Authorities, 1880, 1881, 1882.
Authentic proceedings of the deliberations of the Colonial Authorities, Sessions 1880, 1881, 1882.
Selections from the Cochin China Legislation and Rulings by Mr. Bataille.
Cochin China in 1878.
State of Cochin China in 1879 (statistic).
Ditto ditto in 1880.
Ditto ditto in 1881.
Proceedings of the Chamber of Commerce since its formation.
Annals of the Botanical Garden and of the Experimental Farm.
History and description of the Lower Cochin China, by Mr. Aubaret.

Annamite Historical Course, by Mr. Petrusky (2 volumes).
Grammar in the Annamite language, by Mr. Aubaret.
Mes Luat Day hoc Tungpho Lansa, by Mr. Petrusky.
French Grammar, by Mr. Jourdain.
Annamite—French Dictionary, by Mr. Legrand de la Liraye.
So-hoc Vanton, or elementary work for beginners.
Sach tap hoc, by Mr. Potteaux.
Dai nam Suky Bien ca, by Mr. Petrusky.
Kun van kien Truyen, an Annamite poem, by Mr. Petrusky.
Manual for Elementary Schools, by Mr. Petrusky.
Thuyen Doi Xua, Annamite Fable, by Mr. Petrusky.
Thuyen Giai Buon, by Mr. Paulus Cua.
French and Annamite Conversations, by Mr. Potteaux.
Luc Van Tien, a popular poem, by Mr. Jeanneau.
Life's Events, by Mr. Petrusky.
Guide to Conversation, by Mr. Petrusky.
The Manners and Customs of the Annamites, by Mr. Petrusky.
Domestic life—a father to his children, by Mr. Petrusky.
French and Annamite Alphabet, by Mr. Petrusky.
Work on the Military training of natives of the country, by Mr. Bonnal.
Cambodgien Codes.
Vocabulary, French and Cambodgien and Cambodgien and French, by Mr. Moura.
Voyage to Cambodge, Architecture Kmer, by Mr. Delaporte.
Method for acquiring a knowledge of Cambodgien, by Mr. Jeanneau.
French and Cambodgien Dictionary, by Mr. Aymonier.
Kmer and French Dictionary, by Mr. Aymonier.
Kmer Texts, by Mr. Aymonier.
Cambodgien course of studies as pursued by the Law students of Saigon, by Mr. Aymonier.
French Annual of Cochin China for the year 1883.
Lich Annam, or Annamite Annual of Cochin China for the year 1883.
Birds from Cochin China, by Dr. Tirant.
Fish from the Hué River by Dr. Tirant.

CLASS XIV.—MUSICAL INSTRUMENTS.

GOVERNMENT, SAIGON—
An Annamite violin on three strings.
Six Annamite flutes.

INSPECTION, BENTRE—
Pagoda drum.

CLASS XV.—SCIENTIFIC INSTRUMENTS.

GOVERNMENT, SAIGON—
An arithmetical reckoner.
An Annamite mariner's needle, or sea-compass.

SECTION C.—HEALTH.

CLASS XVIII.—DRUGS AND MEDICINES.

CHAMBER OF COMMERCE, SAIGON—
Chinese medicine most generally in use.
Expectorating nut.
Hong chee.
Siong Hin.
Sam go.
Sang Ho.
Sang Hec.
The tong.

SECTION D.—FURNITURE AND OTHER OBJECTS FOR THE USE OR DECORATION OF DWELLING-HOUSES AND OTHER BUILDINGS.

CLASS XXIII.—FURNITURE AND UPHOLSTERY.

VRAN VAN CUONG, Sadec.—A table made of ancient wood.

GOVERNMENT, SAIGON—
A sideboard, sculptured, made of wood from Go.
A large sculptured wood Annamite bed.
Two sculptured wooden couches.
Two ancient large chairs made of sculptured wood from Go.
Camp-bed made of sculptured wood from Go and Sao.
Two benches, sculptured, made of Go and Trac wood.
Two toilet supports sculptured in ancient wood.

ME. THI NAM QUAN, Binh-hoa.—Two Annamite couches, sculptured and inlaid with marble.

HUYEN TAY, Binh-hoa.—A sculptured trunk.

POIGNAND, Saigon.—A piece of furniture.

GOVERNMENT, SAIGON—
Two beautifully inlaid panels.
Inlaid round table.
Oval tray, inlaid.
Rectangular tray, inlaid.
Inlaid work-box.
Do. jewelry-box.
18 Inlaid planks.
Two ancient inlaid couches.
Two inlaid trunks.
Inlaid round box.
Square box.
Inlaid round table.
Tray.
A lady's work table.
Inlaid wooden boxes.
Inlaid trunks, ancient style.
Inlaid box, ditto.
Two small inlaid planks.
Inlaid trunk.
Do. do.
Do. tray.
Do. box.
Two lady's work-boxes, embossed.
Two inlaid inkstands.
A large sized tray, inlaid.
Two oval trays, do.
A large lady's work table, inlaid.
An inlaid betel-box.
Ditto box.

POIGNAND, Saigon.—Inlaid planks.

ME. THI NAM QUAN, Binh-hoa—
1 Inlaid rectangular plank.
2 Planks inlaid with Annamite characters.
1 Inlaid plank with black lacker.

LACAZE, Saigon—
Inlaid small piece of furniture.
Oval tray, inlaid.
Ditto.
Ditto.
Rectangular tray.
Glove box.

LACAZE—
Jewel box, inlaid.
Ditto ditto.
Work box, inlaid.
Ditto.
Ditto.
Ditto.

GOVERNMENT, SAIGON—
A lot inlaid in various ways.
Work box, inlaid.
Trunk, inlaid.
Ditto.

CLASS XXV.—STONE UTENSILS, POTTERY, PORCELAIN, AND EARTHENWARE.

GOVERNMENT SAIGON.—
Lot of pottery in use at Binh-Thai :—
Pottery made of red earth.
Ditto common.
Ditto hailing from Binh-Thai.
Variety of jugs, cups, and small cups, teapot, tea service, and porcelain tea tray.
Porcelain, blue and white, of different patterns.
Porcelain representing picture.
Lot of pottery and earthenware of the Chinese species hailing from Cai Mai (147 pieces).
Large blue vases ornamented beautifully on pedestals, 80 centimetres in diameter, for gardens.
Ordinary vases, blue, highly ornamented on pedestals, for gardens, verandahs, or vestibules.
Small vases, blue, green, yellow, ornamented, and either with or without pedestals, in marble or sculptured wood, to be placed in a room.
Lots of Annamite combs.

CLASS XXVIII.—BRUSHWARE.

GOVERNMENT, SAIGON—
Combs in bone and silver, for the use of the hair, used by men.
Combs in bone and silver, for the use of the hair, used by women.
Combs made of buffalo's horn.
Combs made of various kinds of wood.

CLASS XXIX.—BASKETWARE.

HUINH VAN XUNG, District of Gocond—
A work-basket.
A common work-basket.
A small ditto.

NGUYEN TRUONG SANH, District of Gocond—
A large work basket.
A small ditto.
NGUYEN VAN NGAI, District of Sadec.—Model of a basket.
LE VAN TIEN, District of Sadec.—Model of a basket.
BUE VAN CAM, District of Sadec—
A basket used to put out fires.
Ditto ditto.
Instrument used to free the rice-field from water.
VO VAN HANG, District of Sadec.—Model of a blind in wealthy establishments.
NGUYEN CON CHIEN, District of Sadec—
Model of a bamboo blind.
Ditto ditto.
LE VAN KIEN, District of Sadec.—Model of an Annamite lantern.
LE VAN LUONG, District of Sadec.—Model of an Annamite sledge.
HUINH VAN HUU, District of Sadec.—A collection of small work-baskets used by the Annamite woman.
BRISAC, Saigon.—Oval basket.
PRISON, Saigon.—Two round baskets.
BRISAC, Saigon.—Eight wide-awake hats for the Annamite military. Six ditto.
GOVERNMENT, SAIGON.—Two round, covered baskets, one work-basket.
DISTRICT BIN-HOA.—Arm-chairs made of rattan.
PRISON, Saigon.—One arm-chair made of rattan, one large arm-chair. Ditto.

CLASS XXXI.—DECORATED WORK, INCLUDING CARVING AND ART-WARE.

GOVERNMENT, SAIGON—
Four different Bondhas, gilt and lacquered.
One Bondha made of black wood; a porcelain Bondha.
A large chair for Bondha, made of sculptured wood, gilt and lacquered.
A small chair for Bondha, made of sculptured wood, gilt and lacquered.
A small wooden pagoda, sculptured, with plate glass.
A small wooden pagoda, sculptured, with the accessories of Bondha.
Magnificent decorations of a pagoda in sculptured gilt wood, highly embossed, and presenting different Annamite scenes; two roots sculptured, forming pendants.
MARTIN, Saigon.—Four brackets or pier-tables in sculptured gilt wood, highly embossed.
POIGNAND, Saigon.—Four brackets or pier-tables made of wood in open daylight, and sculptured with flowers and buds. Ten different brackets or pier-tables sculptured.
ME. THI NAM QUAN, Binh-hoa.—Four large, convex cups from Loitrary, inlaid with golden Chinese characters. A square implement inlaid with mother-o'-pearl. Two implements in Chinese characters, inlaid with mother-o'-pearl. An implement inlaid with mother-o'-pearl, and black lacquer. Eighteen large implements in Chinese characters, inlaidwith mother-o'-pearl. Two small implements in Chinese characters, inlaid with mother-o'-pearl.
MOQUIN-TANDON, Saigon.—Two large wooden implements inlaid with mother-o'-pearl, birds, butterflies and flowers.
POIGNAND, Saigon.—Six large inlaid implements.
GOVERNMENT, SAIGON.—Two lacquered Annamite boxes; a large box hailing from Ibrie. A long lacquered Annamite box. A lacquered box with comb. A large box for Annamite ceremonies. An Annamite lacquered box with compartments. An Annamite box, lacquered and inlaid with flowers.

CLASS XXXII.—CARPETS, HANGINGS, TAPESTRY, FURNITURE-STUFFS, MATTING, PAPER-HANGINGS.

ME. THI NAM QUAN, Binh-hoa.—A table-covering embroidered deep black. An embroidered table covering deep blue.

GOVERNMENT, BINH-HOA—
An embroidered table-covering deep red (three exhibits).
An embroidered table-covering deep black.

MARECHAL, Saigon.—An embroidered table-covering deep black.

POIGNAND, Saigon.—Three hangings, or tapestry panels, in Chinese characters.

ME. THI NAM QUAN, Binh-hoa.—Two hangings, or tapestry panels, of a deep red colour, in Chinese characters. Two little ditto of a red colour, in Chinese characters. Six hangings, or tapestry panels, in red cloth, in Chinese characters. Two altar-pieces dedicated to Budha, in red embroidered satin. Four girdles or waist-bands in honour of Budha, made of embroidered red satin.

GOVERNMENT, SAIGON.—Four hangings of various, embroidered with silk upon silk. Two curtains in deep white silk, embroidered red, blue, and gold flowers. Two hangings of embroidered deep violet. An embroidered curtain. Two light embroideries. A girdle devoted to Budha (embroidered).

INSPECTION, RACH-GIA.—Lot of mats from Rach-gia. Manner of manufacturing mats.

DISTRICT HATIEN.—Lot of mats from the district of Hatien.

GOVERNMENT, SAIGON.—Lot of mats from the district of Kampot, commonly known as Cambodgienne mats.

LE VAN LAI, Sadec.—A pair of mats with reeds which are used in making them. Model of blinds used for the verandahs of Annamite houses. Model of bamboo blinds made use of in Annamite houses. Models in general use of blinds made of bamboo in Annamite houses. Model of an Annamite lantern.

CLASS XXXIV.—BRONZES, ORNAMENTAL WORK IN GOLD, SILVER, AND OTHER METALS.

POIGNAND, Saigon.—An Annamite bronze bell. A large incense-burner in embossed copper (modern).

ME. THI NAM QUAN, Binh-hoa.—A large incense burner in embossed copper (ancient). Two lamp-posts made of ancient copper. Two copper chandeliers. A small incense burner with cover (carved in copper).

GOVERNMENT, SAIGON.—A collection of bronzes, copper, of ancient and modern casting (40 pieces).

SECTION E.—FABRICS, INCLUDING APPAREL, TOILET REQUISITES, AND OTHER OBJECTS OF PERSONAL WEAR OR USE.

CLASS XXXVIII.—COTTON FABRICS.

GOVERNMENT, SAIGON.—Cotton tissue for Annamite clothing.

CLASS XL.—SILK FABRICS.

BAO-AN CANTON, Bentre—
Silk, Ecrew.
Do. sample of Bongdau.

Silk, sample of Chidang.
Do. ditto Long-huong.
Do. ditto Mat Wong.
Do. sample.
Do. ditto Bong-que.

TRAN-THI-IBAT, Sadec.—Silk, white.
IBA-VAN KHANH, Sadec.—Silk, ecrew.
IBA-VAN CU, Sadec.—Silk, white.
IBA-VAN LBAO. Sadec.—Silk, yellow.
PHAM VAN KUON, Sadec.—Silk, orange.
NG-VAN-KY, Long Xuyen—
Silk, ecrew, Bougdau.
Silk, ecrew, Tong-uhang.
NG-VAN THIEN, Long Xuyen.—Silk, ecrew, Tong-cach.
BEN HAN-DE, Long Xuyen.—Silk Ecrew, Tong-bua.
NG-VAN CHOU, Long Xuyen.—Silk, white, Long-trou.
TAN CHAN, Chaudoc.—Silk, ecrew.
CANTON OF TAN CHAN, Chaudoc.—Silk, white.
CHAN GNAY CUA, Travinh.—Silk, Annamite, for the use of Cambodgians (6 pieces).
GOVERNMENT, SAIGON—
Various kinds of silks most in use for clothing Annamites of both sexes.
Specimen of black Annamite silk (six different pieces).
Specimen of Annamite silk (two different qualities).
Specimen of Annamite silk (six different pieces).
ME. THI NAM QUAN, Binh-hoa.—Specimens of embroidered silk, silk on silk, of a variety of shades, 11 pieces.

CLASS XLVI.—APPAREL AND HABERDASHERY.

GOVERNMENT, SAIGON—
Clothing in various shapes and different colors, as worn by Annamite men and women. Clothing in various shapes and different colours, as worn by Cochin Chinese men and women.

CLASS XLVII.—BOOTS, SHOES, AND SLIPPERS.

GOVERNMENT, SAIGON—
Samples of shoes and boots, &c., worn by Annamite men, women, and children.
Samples of shoes and boots, &c., worn by Chinese men and women.

CLASS XLVIII.—HATS AND CAPS.

GOVERNMENT, SAIGON—
Samples of hats, as worn during the summer and the rainy weather by the Annamites, both males and females.
A Mandarin's helmet.

POIGNAND, Saigon—
An helmet ornamented in gold, worn by a Military Mandarin of rank.
An Annamite turban of black crape, as worn by literary men.

CLASS L.—JEWELRY.

NG TAN TIEN, Sadec—
Necessaries for the toilet, tooth-picks, ear-cleaners, &c., with chains of various patterns (ornamented).
A pair of bonnet, or hat clasp, in use by the Annamite women.
GOVERNMENT, SAIGON—
A man's bracelet.
An Annamite woman's bracelet.
Ditto ditto bead bracelet.
Ditto ditto in jet.
A woman's necklace.
Hair-pins for women.
An amber bead bracelet.
A pair of woman's carrings.
A pair of jet bracelets from the island of Phu-quoc.

SECTION F.—RAW PRODUCTS AND MANUFACTURES FROM PRODUCTS NOT INCLUDED IN OTHER SECTIONS.

CLASS LIV.—INDIGENOUS TIMBER AND OTHER FOREST PRODUCTS.

GOVERNMENT, SAIGON.—Rare collection of Cochin China timber (185 pieces).
INSPECTION, TAY-NINH.—A tray or waiter in one piece, made viap timber.
GOVERNMENT, SAIGON.—A tray or waiter in one piece, made vien-vien timber.
HA NGOE QUOI, Sadec.—A root of Caigua timber in its natural condition, representing an arm chair.

CLASS LV.—OILSEEDS.

NGUYEN VAN KUI, LONG-XUYEN.—Various kinds of cocoas.
INSPECTION, BARIA.—Various kinds of cocoas.
INSPECTION, Chaudoc—
Castor-oil seeds (hot), du du.
Sesamum seeds (black), meac.
Do. do. (grey).
CHAMBER OF COMMERCE, Saigon—
Sesamum seeds (white).
Do. do. (black, No. 1).
Do. do. (black, No. 2).

CLASS LVI.—OIL.

GIRARD, Isle of Phu-quoc.—Cod-liver oil.
INDIGENOUS, Chaudoc.—Fish oil.
CHAMBER OF COMMERCE, Saigon.—Fish oil.
N. VAN SEN, Baria.—Oil prepared from wood.
CHAMBER OF COMMERCE, Saigon—
Oil prepared from wood.
Arachnidan oil.
INDIGENOUS, Baria.—Cocoanut oil.
CHAMBER OF COMMERCE, Saigon.—Cocoanut oil, castor-oil, sesamum oil.

CLASS LVII.—SOAP, TALLOW, WAX, AND OTHER MANUFACTURES OF OLEAGINOUS SUBSTANCES.

MESSRS. DEVISE AND ARENS, Saigon.—Blue colored soap, rose ditto.
TRAN VAN VAN, Baria.—Fish oil (or fat).

INDIGENOUS, Rachgia—
Wax from yellow bees.
Ditto white do.
INDIGENOUS, Chaudoc.—Wax from old bees from the mountain of Bapeah.
CHAMBER OF COMMERCE, Saigon.—Wax from the Rachgia district.

CLASS LVIII.—HIDES, HORNS, HAIR, BRISTLES, &c.

CHAMBER OF COMMERCE, Saigon—
Buffalo hides.
Ox do.
Stag do.
Tiger skin.
Panther do.
Wild cat do.
Pangolin do. (a short-tailed animal).
Rhinoceros hide.
Elephant do.
Scales of fishes.
Serpents' skin.
Birds' do.
Horns of a buffalo (large).
Do. ditto (small).
Do. of an ox (large).
Do. of an ox (small).
Do. of a wild bull.
Do. of a large-horned stag.
Do. of a common stag.
Do. of an elk, or moose-deer.
Do. of a rhinoceros.
GOVERNMENT, SAIGON.—Feathers, skins of various birds, both as regards plumage and shades of colors.
CHAMBER OF COMMERCE, Saigon—
Feathers of marabsut, large and strong, for making fans.
Do. of pelican for ditto
INSPECTION, RACH-GIA.—Feather fans of a variety of shapes.

CLASS LX.—COTTON, RAW, AND THREAD.

MR. GIRARD, Isle of Phu-quoc.—Cotton.
T. VAN SAIG AND NG VAN SANG Baria.—Cotton,
CHAMBER OF COMMERCE, Saigon—
Cotton, unprepared.
Do., prepared in the machine.
Cotton prepared by the Cambodgiens.

CLASS LXII.—SILK, RAW, COCOONS, AND THREAD.

CHAMBER OF COMMERCE, SAIGON—
Cochin-China silks-batri-mocai tuichan.
Raw silk.
Ditto.
Twisted Silk.
Cocoons.
Silks from the Annamite provinces.
Silk from Quin hon, raw.
Ditto ditto.
Ditto twisted.
Ditto cocoons.

Silk from Tourane, raw.
Ditto ditto.
Ditto twisted.
Ditto do. cocoons.

AGRICULTURAL COMMITTEE, Saigon—
A quantity of cocoons (ancient).
Ditto silk thread (ancient).

CANTON OF BAOAN, Bentre—
Silk thread, 1st quality.
Ditto, 2nd quality.
Ditto, 3rd quality.

HUINH-VAN, Sadec—
Silk.
Do., twisted.

INDIGENOUS, Long Xuyen.—Silk, raw.
INDIGENOUS, Chaudoc.—Silk thread.

CLASS LXVI.—COIR AND MANUFACTURES THEREFROM.

CHAMBER OF COMMERCE, Saigon.—Various ropes and fibres.

CLASS LXVII.—OTHER FIBRES AND MANUFACTURES THEREFROM.

CROZAT, THUDAUMOT.—Ramie.
GIRARD, Isle of Phu-quoc.—Ramie.
TRAN VAN HOA, Baria.—Ramie, indigenous.
CHAMBER OF COMMERCE, Saigon.—Ramie from Baria.
AGRICULTURAL COMMITTEE, Saigon.—Ramie, ancient.

CLASS LXIX.—TORTOISE-SHELL.

ARCILLON, Hatien—
Two tortoises with polished scales.
Four hand screens, or screens in tortoise-shell.

POIGNAND, Saigon.—Two screens in tortoise-shell.
MR. THI NAM QUAN, Binh-hoa.—Six cups and saucers in tortoise-shell, with wands.
GOVERNMENT, SAIGON.—Two screens in tortoise-shell.

CLASS LXXIII.—LAC.

CHAMBER OF COMMERCE, Saigon—
Natural lac.
Stick-lac.

CLASS LXXIV.—GUMS AND RESINS.

INDIGENOUS, Baria.—Resin or rosin.
THE VILLAGE OF ANG-PHUE-LONG, Baria.—Resin or rosin.

CLASS LXXV.—INDIGO.

INDIGENOUS, Baria.—Indigo, indigenous (or native).
VILLAGE PHUOC HUNG HA, Baria.—Indigo, indigenous (or native).
LE VAN THI, Long-Xuyeno—
Indigo, indigenous (or native).
Ditto ditto

CHAMBER OF COMMERCE, Saigon.—Indigo, indigenous (or native).
FARM EXPERIMENTAL, Saigon.—Indigo according to the Indian system.

CLASS LXXVI.—OTHER DYEING AND COLORING MATERIALS.

HUYNH VAN CHIEU, Baria.—Colored bark.
CHAMBER OF COMMERCE, Saigon.—
Leaves used for dark coloring.
Prepared annotto, No. 1.
Ditto „ 2.
Yellow bind-weed.
Wood of a yellow color.
NG VAN TANG, Baria.—Cæsalpina (sapan wood) of a red color.

CLASS LXXVIII.—TOBACCO.

LE VAN KHA, Gocond.—1 Cake of tobacco.
CHAMBER OF COMMERCE, Saigon.—
Tobacco from Long Baon.
Ditto Goaap.
Ditto Long-thanh.
Ditto Phnum-penh.

CLASS LXXXI.—OTHER PRODUCTS AND MANUFACTURES NOT SPECIFIED.

GIRARD, Isle of Phu-quoc.—Vanille, 1883.
CHAMBER OF COMMERCE, Saigon—
Moss, or sea-weed (small and large).
Ditto. ditto
Wadding from Cambodge.
Ditto Cochin-China.
GOVERNMENT, SAIGON—
Manufactured Opium from Chandoo—
(*a*) Model of the preparing and straining Saigon opium, with several workmen at their duties.
(*b*) 4 ancient models of small vessels in use and for sale, from Chandoo and in their store-houses.
(*c*) 4 new models of small vessels actually in use, made of copper, for sale, procured from Chandoo, and in their store-houses.
(*d*) Three copper vessels.
(*e*) Two iron tongs, or pincers.
(*f*) A chemical retort.
(*g*) Two wooden spatulas.
(*h*) Two plans of the boiling apparatus.

SECTION G.—MACHINERY AND IMPLEMENTS, MEANS OF TRANSPORT, APPLIANCES AND PROCESS USED IN THE COMMON ARTS AND INDUSTRIES, INCLUDING MODELS AND DESIGNS.

CLASS LXXXIX.—OCEAN, COAST, AND RIVER NAVIGATION.

RIVER MESSENGERS, Saigon.—Model of the Company's steamers, scale 2 m m per meter.

AGRICULTURAL COMMITTEE, Saigon—
A cutting elevation.
Model of a sea-going junk.
INDIGENOUS, Baria.—Model of a coasting Annamite vessel on the Indo-Chinese coasts.
PHAN VAN NGUON, Sadec—
Model of an Annamite vessel for trading on large rivers.
Ditto ditto for trading on small rivers.

CLASS XC.—CARRIAGE AND VEHICLES, WHEELWRIGHT'S WORK.

PHAN VAN KI, AGRICULTURAL COMMITTEE, Saigon.—Model of a bullock-cart.
LE VAN DU, AGRICULTURAL COMMITTEE, Saigon.—Model of a buffalo-cart.
TONG KHAN XUONG, AGRICULTURAL COMMITTEE, Saigon.—Model of trotting bullocks in a cart, with muzzles for the journey.
DISTRICT Gocond.—Model of trotting bullocks in cart covered for the journey.
AGRICULTURAL COMMITTEE, Saigon.—Model of a cart with running bullocks for the races.
NG VAN THIEN, Gocond.—Wooden sledge for the purpose of transplanting the young rice plant on the muddy soil.
LE VAN LUONG, Sadec.—An open worked sledge for the purpose of conveying sheaves of rice on a humid soil.

SECTION H.—FOOD PRODUCTS.

CLASS CXI.—COFFEE.

GIRARD, Isle of Phu-quoc.—Coffee.
DISTRICT TAY NINH.—Coffee.

CLASS CXII.—SUGAR.

NG VAN BONG, Baria—
Sugar.
Sugar from Cochin China.
CHAMBER OF COMMERCE, Saigon—
No. 1 quality.
No. 2 do.
Sugar from Cambodge.
Sugar from Quinhone (Annam).
No. 1 quality.
No. 2 do.
No. 3 do.

CLASS CXIII.—SPICES.

GIRARD, Isle of Phu-quoc.—White pepper.
DISTRICT BARIA.—Black pepper.
CHAMBER OF COMMERCE, Saigon—
Black pepper.
Ditto (clean).
White pepper.

CLASS CXV.—BREAD STUFF AND ARTICLES MADE THEREFROM.

FRENCH COMPANY, Saigon—

V Rice cargo, Vinh Long.
P Ditto, Gocong.
P B Ditto, Piechou, white.
G B 1 Rice, round grain, No. 1.
G B 2 T Ditto, No. 2, sorted.
G B 2 Ditto, No. 2, not sorted.
Paddy, country, Vinh Long.
Ditto, Gocond.
Ditto, Piechou.

WORKS, Cholon—

G B 1 Rice, round grain, No. 1.
G B 2 T Ditto, No. 2, sorted.
G B 2 Ditto, No. 2, not sorted.

TAN DUONG, Sadec—

Rice hailing from Lua nung Xuy.
Ditto Lua nung rum.
Ditto Lua hong Xoi.
Ditto Lua ca dung bong dau.
Ditto Nep mât.

LONG HUNG, Sadec—

Rice hailing from Lua mia.
Ditto Lua nang et.
Ditto Lua cang Ton.
Ditto Nep tau.

KI, Baria.—Rice.
CANTON OR DISTRICT OF BAO PHUOC, Bentre—
Rice Ca dung.
Rice Nang chua.
CHAN BIET, Soctrang.—Rice from Nang Xoat.
CHAT VAN THON, Soctrang.—Rice Lua tro chap.
LY LAT, Soctrang.—Rice Nang sa an.
CONGREGATION PHUOC KIEN, Soctrang.—Rice nang-lao. Ditto. TRIEN CHAU, Soctrang.—Rice gao ngang. Do. mai cuoi.
NG VAN NHAM, Soctrang.—Rice nang cuoi.
NEN, Soctrang.—Rice trang nho.
HUYNH DAO, Soctrang.—Rice ca hom nha.
TAO VAN SAN, Soctrang.—Rice glutinous *song dao*. Do. mong chiem.
HO VAN MANH, Soctrang.—Rice Mong heo trang.
CONGREGATION OF TRIEN CHAU, Soctrang.—Rice glutinous nep thang. Do. mai cuoi.
HO VAN DONG, Soctrang.—Rice nang loi.
CONGREGATION OF TRIEN CHAU, Soctrang.—Rice glutinous nep thang.
VILLAGE OF QUI MO, Soctrang.—Rice Nang-nang.
DANH SINH, Soctrang.—Rice glutinous nep bun.
VILLAGE OF HOA TUC, Soctrang.—Rice glutinous nep mat coi.

Ng van Dat, Soctrang.—Rice cua Hem.
Tan Xa, Soctrang.—Rice glutinous nep tram.
Ng van Tho, Soctrang.—Rice glutinous nang gia.
Village of An ca, Soctrang.—Rice glutinous nang mai.
Le van gong, Soctrang.—Rice bong buoi.
Huynh van an, Soctrang.—Rice glutinous nep muong.
Dao van Agot, Soctrang.—Rice gao ca dung hom.
Xuan Loi, Soctrang.—Rice gao nang ruc.
Ng Van Tan, Soctrang.—Rice glutinous thang-be.
Duy, Soctrang.—Rice glutinous dia nang.
Lam van Ut, Soctrang.—Rice dang cho.
Lam Trem, Soctrang.—Rice glutinous nang vo.
Van Con Luan, Soctrang.—Rice lua ca dung.
Trien Nhoc, Soctrang.—Rice nang choi.
Trien phen, Soctrang.—Rice glutinous tan ho.
Ng Van van, Soctrang.—Rice glutinous trung san.
Danh Le, Soctrang.—Rice glutinous xa la.
Dong van Tin, Soctrang.—Rice glutinous nep le. Do. Lua nep Trang.
Kiem Doi, Soctrang.—Rice Kao may.
Village of An tap, Soctrang.—Rice glutinous nep sa lat.
Village of Van trai, Soctrang.—Rice glutinous nang nhen.
Village of Sung Dinh, Soctrang.—Rice glutinous nep ta kiet.
Village of Nham Long, Soctrang.—Rice glutinous nep nen lao.
Village of Ninh Thoi, Soctrang.—Rice glutinous nep kiem.
Vo van Thi, Soctrang.—Rice glutinous nep dieu.
Ng val Dau, Soctrang.—Rice nang ruc.
Le van Vang, Soctrang.—Rice glutinous.
Pham van Tho, Soctrang.—Rice cadung sac.
Dao van De, Soctrang.—Rice cadung cham.
Do van Nguon, Soctrang.—Rice nang mo.
Duong Thu, Soctrang.—Rice phat mo so.
Danh Et, Soctrang.—Rice nang ngoc. Do. lua nang doi.
Hau Co lam Dong, Soctrang.—Rice trang lon.
Huynh van an, Soctrang.—Rice glutinous nep huong.
Dan Thach Nghet, Soctrang.—Rice nang xoi.
Tran Uoi, Soctrang.—Rice nuoc mat.
Xan Dang, Soctrang.—Rice lua dui.
Pham van Ben, Soctrang.—Rice cua mia.
District of Dinh my, Soctrang.—Rice gao ra trang.
Lam Cong, Soctrang.—Rice glutinous cuon trau.
Huynh van nuoi, Soctrang.—Rice nep mu-u.
Dinh van Minh, Soctrang.—Rice ca mai.
Son Ban, Soctrang.—Rice glutinous nong can.
Ng van Nang, Soctrang.—Rice nang ke.
Village of Than Thai, Soctrang.—Rice white Ditto.

Class CXXI.—Preserved Fish.

Ng van Huc, Baria.—Dried salt fish of different varieties.
Tran van Phuong, Long Xuyen.—Dried salt fish, Ko Lat.
Ng van Chou, Long Xuyen.—Various kinds of dried salt fish (Long trou).
Chamber of Commerce, Saigon—

Various kinds of dried salt fish, Sepat.
Ditto ditto (Leam Hau).
Ditto ditto Loi Hau.
Ditto ditto Leam Trou.
Dried shrimps (large).
Ditto (small).

CLASS CXXII.—PRESERVED FRUITS AND VEGETABLES.

INSPECTION, Long Xuyen.—Five kinds of Haricots.
MAI TAN GIAO, Long Xuyen.—Haricot.
INSPECTION, Baria—

White Haricots.
Green do.
Two kinds of Haricots.

INSPECTION, Choudoc—

White Haricots.
Black do.
Yellow do.
Green do.

INSPECTION, Bentre—

Green Haricots.
Black do.

CHAMBER OF COMMERCE, Saigon.—Yellow Haricots.
INSPECTION, Long Xuyen.—Maize, or Indian wheat, in grains (three kinds)
INSPECTION, Baria.—Maize in grains.
NG VAN LONG, Baria.—Maize, red, in full bloom.
INSPECTION, Chaudoc—

Maize, yellow, in grains.
Do., white, ditto

INSPECTION, Bentre.—Maize, in full bloom (two kinds).
CHAMBER OF COMMERCE, Saigong—

Maize, white, from Cambodge.
Do., yellow, ditto.
Do., white, from Cochin China.
Do., yellow, ditto.

INSPECTION, Baria—

Sesamum.
Do., black.

INSPECTION, Chaudoc—

Sesamum, black.
Do., grey.

CHAMBER OF COMMERCE, Saigon—

Sesamum, white.
Do., black, No. 1 quality.
Do., do., No. 2 do.

PHAM VAN MUI, Baria.—Pistachio nuts.
NG VAN NGOI, Baria.—Pistachio nuts.
TRAN QUAN KIEU, Long Xuyen.—Areca nut.
NG VAN VAN, Long Xuyen.—Lotus seed.
CHAMBER OF COMMERCE, Saigon—

Seed of the lotus plant.
Do. of the earth nut plant.
Do. of the earth, decorticated (or stripped of its bark)
Do. of wild castor-oil plant.

INSPECTION, Chaudoc.—Seed of wild *castor-oil* plant.

CLASS CXXXII.—SPIRITS.

CATOIRE, Saigon—

Cochin China rum of the year 1883.
Ditto *ditto* *ditto.*
Ditto *ditto* *ditto.*

SECTION I.—AGRICULTURE AND HORTICULTURE.

CLASS CXXXVII.—COLLECTIONS OF AGRICULTURAL PRODUCTS.

KI, Baria.—Rice paddy.
MAC VAN TINO, Baria.—Paddy.
HO VAN BANG, Baria.—Paddy.
PHUNG VAN THANG, Baria.—Paddy.
TAN VAN THO, Baria.—Paddy.
INSPECTION, Baria.—Paddy.
CANTON BAO PHUOC, Bentre—
Paddy nang ngoi.
Rice ca dung.
Paddy do.
Paddy nang co.
Riz nang-chua.
Paddy lua nise.
Paddy lua tan chat.
Paddy de vang.
Paddy nep hiem.
Paddy glutinous nop do.
Paddy glutinous nep co.
Paddy glutinous nep muong.
CHAN BIET, Soctrang—
Paddy nang xoat.
Rice ditto.
CHAT VAN THON, Soctrang—
Paddy lua tro chap.
Rice ditto.
LY LAT, Soctrang—
Paddy nang sa an.
Rice ditto.
CONGREGATION PHUOC-KIEN, Soctrang—
Paddy glutinous nang lao.
Rice ditto.
Paddy ditto.
Rice ditto.
CONGREGATION TRIEN-CHAU, Soctrang—
Paddy gao ngang.
Rice ditto.
Paddy mai cuoi.
Rice ditto.
NG VAN NHAM.—
Paddy nang cuoi.
Rice ditto.
NEN, Soctrang—
Paddy trang nho.
Rice ditto.
HUYNH DAO, Soctrang—
Paddy ca hom nha.
Rice ditto.
TAO VAN SAN, Soctrang—
Paddy glutinous song dao.
Rice ditto.
Paddy mong chiem.
Rice ditto.
NG VAN MANH, Soctrang—
Paddy mong heo trang.
Rice ditto.
HO VAN DONG, Soctrang.—Paddy nang loi.
CONGREGATION TRIEN-CHAU, Soctrang—
Rice glutinous nep thang.
Do. man cuoi.
HO VAN DONG, Soctrang—
Paddy nang loi.
Rice do.
CONGREGATION TRIEN-CHAU, Soctrang—
Paddy glutinous nep thang.
Rice ditto.
VILLAGE QUI-MO, Soctrang—
Paddy nang tran.
Rice ditto.
DANH SINH, Soctrang—
Paddy glutinous nep bun.
Rice ditto.
VILLAGE HOA-TUC, Soctrang—
Paddy glutinous nep mat cuoi.
Rice ditto.
NG VAN DAT, Soctrang—
Paddy cua hem.
Rice ditto.
TAN XA, Soctrang—
Paddy glutinous nep tram.
Rice ditto.
NG VAN THO, Soctrang—
Paddy glutinous nang gia.
Rice ditto.
VILLAGE AN CA, Soctrang—
Paddy nang mai.
Rice ditto.
LE VAN GONG, Soctrang—
Paddy bong buoi.
Rice ditto.
HUYNH VAN AN, Soctrang—
Paddy glutinous nep muong.
Rice ditto.
DAO VAN AGOT, Soctrang—
Paddy lua ca dung hom.
Rice gao ca dung hom.
XUAN LOI, Soctrang—
Paddy nang ruc.
Rice gao nang ruc.
NG VA TAN, Soctrang—
Paddy glutinous thang be.
Rice ditto.
DU Y, Soctrang—
Paddy glutinous dia nang.
Rice ditto.

LAM VAN UT, Soctrang—
Paddy nang cho.
Rice ditto.
LAM TIEM, Soctrang—
Paddy glutinous nang vo.
Rice ditto.
VAN CON LUAN, Soctrang—
Paddy lua ca dung.
Rice ditto.
TRIEN NHOC, Soctrang—
Paddy nang choi.
Rice ditto.
TRIEM PHEN, Soctrang—
Paddy glutinous tan ho.
Rice ditto.
NG VAN VAN, Soctrang—
Paddy glutinous trung san.
Rice ditto.
DANH LE, Soctrang—
Paddy glutinous xa la.
Rice ditto.
DONG VAN TIN, Soctrang—
Paddy glutinous Nep lè.
Rice ditto.
Paddy Lua nep trang.
Rice ditto.
KIEM DOI, Soctrang—
Paddy Kao-may.
Rice ditto.
VILLAGE AN TAP, Soctrang—
Paddy glutinous Nep sa lat.
Rice ditto.
VILLAGE VAN TRAI, Soctrang—
Paddy glutinous Nang nhen.
Rice ditto.
VILLAGE SUNG DINH, Soctrang—
Paddy glutinous Nep ta kiet.
Rice ditto.
VILLAGE NHAM LONG, Soctrang—
Paddy glutinous Nep nen Luo.
Rice ditto.
VILLAGE NINH THOI, Soctrang—
Paddy glutinous Nep kein.
Rice ditto.
VO VAN THI, Soctrang—
Paddy glutinous Nep dien.
Rice ditto.
NG VAN DAU, Soctrang—
Paddy Nang ruc.
Do. ditto.
LE VAN VANG, Soctrang—
Paddy glutinous Muong trang.
Rice ditto.
PHAM VAN TO, Soctrang—
Paddy Cadung sac.
Rice ditto.

DAO VAN DE, Soctrang—
Paddy Cadung cham.
Rice ditto.
DO VAN NGUON, Soctrang—
Paddy Nang mo.
Rice ditto.
DUONG THU, Soctrang—
Paddy Phat mo so.
Rice ditto.
DANH ET, Soctrang—
Paddy Nang ngoe.
Rice ditto.
Paddy Lua Nang doi.
Rice ditto.
HUA CO LAM DONG, Soctrang—
Paddy Trang lon.
Rice ditto.
HUYNH VAN AH, Soctrang—
Paddy glutinous Hep huong.
Rice ditto.
DAN THACH NGHET, Soctrang—
Paddy Nang xoi.
Rice ditto.
TRAN UOI, Soctrang—
Paddy Nuoc mat.
Rice ditto.
XAN DANG, Soctrang—
Paddy Lua dui.
Rice ditto.
PHAM VAN BEN, Soctrang—
Paddy Cua mia.
Rice ditto.
CANTON DE DINH MY, Soctrang—
Paddy Gaora trang.
Rice ditto.
LAM CONG, Soctrang—
Paddy glutinous Cuon Tran.
Rice ditto.
HUYNH VAN NUOI, Soctrang—
Paddy Nep Mu-u.
Rice ditto.
DINH VAN MINH, Soctrang—
Paddy Ka mai.
Rice ditto.
SON BAN, Soctrang—
Paddy glutinous Nong Can.
Rice ditto.
NG VAN NANG, Soctrang—
Paddy Nang ke.
Rice ditto.
DIEN VAN TIENG, Soctrang.—Paddy Lua ca Dung.
VILLAGE DE THAN THAI, Soctrang—
Rice, white.
Ditto.
VAN TUE, Soctrang.—Paddy.

CARGO RICE.

COMPAGNIE FRANCAISE, Saigon—
Rice cargo vinh long.
Rice cargo vinh Gocond.
Do. Piechou white.

Usine Cholon, Cholon—
Rice cargo vinh long.
Ditto Gocond.
Ditto Piechou.
Rice Gocond white.

Usine Cholon, Cholon—
Country paddy, Vinh long.
Ditto, Piechou.
Ditto, Gocond.

Compagnie Francaise, Saigon—
Rice (round-grained), No. 1.
Do. ditto, No. 2, sorted.
Do. ditto, No. 2, not sorted.

Usine Cholon, Cholon—
Rice (round-grained), No. 1.
Do. ditto, No. 2, sorted.
Do. ditto, No. 2, not sorted.

Tan Dung, Sadec—
Paddy (Lua Nung kuy).
Do. (Lua Nung rum).
Do. (Lua Nong xoi).
Paddy (Lua cadung bongdau).
Do. (Nep mat).

Long-hung, Sadec—
Paddy (Lua mia).
Do. (Lua Nang et).
Do. (Lua Cang ton).
Do. (Nep Tan).

Ng Van Than, Long Xuyen—
Maize or Indian wheat, in grains.
Ditto ditto, red.

District, Long Xuyen.—Maize or Indian wheat, white, in bloom.

District, Chaudoc—
Maize or Indian wheat, white, in grains.
Ditto ditto, yellow, do.

District, Soctrang.—Maize or Indian wheat, white, in grains.

Village Bao Phuoc, Bentre.—Maize or Indian wheat, white, in bloom.

Chamber of Commerce, Saigon—
Maize or Indian wheat, white, in grains.
Ditto ditto, in bloom.

Classes CXXXIX & CXL.—Processes, Implements, and Machines used in Cultivation or applied to Agricultural and Horticultural Products.

Truong Van Hue, Sadec—
Instrument to manufacture thread.
Ditto to roll thread.

District, Bentre—
Reel skein-winder.
Ditto ditto.
Stools supporting large bobbins.
Spinning wheel to make the thread.
Warp-beam to prepare the apparatus belonging to the instrument.
Loom or framework mounted with apparatus

Agricultural Committee, Saigon—
Model of a silk skein-winder.
Small model used for the purpose of stripping off the bark, or decortication.
Rice pestle.
Sugarcane grinder, or pounder.
Ditto ditto.
Loom for weaving.
Cotton mill.
Loom for weaving.
Annamite wheel.
Loom for weaving.
Oil pressing machine from Seram.

Le Van Sang, Sadec.—Model of a plough with two buffaloes.

Tran Van Vien, Sadec.—Model of rake used in rice fields to pick up the plants.

Ng Van Vang, Sadec.—Model of a machine to spread the grains in the rice fields.

Ng Van Tien, Sadec.—A scythe for cutting the plants.

Ng Van Tuong, Sadec.—Sledge for beating and transplanting the rice plants.

Ng Van Tuy, Sadec.—Machine used for sorting or picking cotton.

Le Van Yen, Sadec.—Model of a basket for paddy.

Le Van Vien, Sadec.—Instrument for the purpose of transplanting rice.

Ng Van Tuong, Sadec.—Basket made from the areca nut.

Ng Van Ngun, Sadec.—Mill used for the purpose of stripping off the bark, or decortication of rice.

Dang Van tho, Sadec.—Mortar to grind the rice.

Ng Van Thinh, Sadec.—Pickaxe, spade, scythe.

Tran Van Nguu, Sadec.—Instrument to gather fruits.

AGRICULTURAL COMMITTEE, Sadec—
A Cambodgienne sickle or reaping hook.
A wooden tower (mõdel); model of an Annamite plough.
LE VAN CHIEN, Gocond.—A plough.
HUINH VAN THIEN, Gocond.—A harrow.
NG TAN THIEN, Gocond.—A cart.
TRAN CONG LANH, Gocond.—A roller, or rolling pin.
PHAM VAN CHI, Gocond—
A yoke for oxen.
A sickle, or reaping hook.
HO VAN LIEU, Gocond—
A scythe.
A sickle, or reaping hook.
VO VAN PHUONG, Gocond.—A stake, pile, or peg.

CLASS CXLIII.—MANURES.

CHAMBER of COMMERCE, Saigon—
Cakes of the earth nut seed, or grains.
Cakes of the black Sesamum seed, or grains.

SECTION K.—ETHNOLOGY, ARCHÆOLOGY, AND NATURAL HISTORY.

CLASS CXLV.—ARCHÆOLOGICAL COLLECTION.

GOVERNMENT, Saigon—
Fragments of scultured stones from the ruins of Ancor (Kmer architecture).
Mouldings of raised basso relievo of the ruins of Ancor (Kmer architecture).
2 Travels to Cambodge. Kmer architecture 179 engravings and map giving the various bearings of the ruins of the present period by Mr. L. Delaporte.
Kmer and French Dictionary by E. Aymonier.
Kmer texts with translation by E. Aymonier.
POIGNAND, Saigon—
A number of Annamite arms.
Two decapitators.
Two Troung chi dao.
Two Thiet Lien dao.
1 Laotienne lance.
1 Cambodgienne lance.
1 Jet lance.
8 Swords of different kinds.
2 Swords of the wild Moïs.
2 Daggers.
AGRICULTURAL COMMITTEE, Saigon—
A number of arms in use amongst the Moïs, such as bows, crossbows, arrows, quiver, &c.
Cambodgien trident or fish-gig made of iron wood for catching turtles and fishing in large rivers or large lakes.

CLASS CXLVII.—IMPLEMENTS CONNECTED WITH FISHERY.

SHAM VAN TUONG, Sadec.—Model of a fishing net.
NG VAN DAT, Sadec.—Model of a net for shrimps.
LE VAN DU, Sadec.—Basket for the purpose of catching fish.
VO VAN MAI, Sadec.—Basket used for emptying the water from fish ponds.
DOAN VAN BAT, Sadec.—Model of a fishing net.
BO VAN BIEU, Sadec.—Model of a fishing net.
LAM VAN DU, Sadec.—Ghe Xuong for fishing with bait or fish-hook and fishing net.
TRAN VAN NGIEU, Sadec.—Fishing net with a dam made of bamboo.
LE VAN LUONG, Sadec—
A bucket for emptying fishing tanks or ponds.
A pair of fishing baskets.
A double fishing net.
A net for catching shrimps.
A basket for catching fish.
A net for catching fish.

NG VAN BINH, Sadec.—A fishing boat with net for prawns.
TRAN VAN NGIEU, Sadec.—Machine, or apparatus for catching eels.
LE VAN CUONG, Sadec.—Fishing boat with net in front.
NG VAN HOC, Sadec.—Fishing boat with net in front.
NG VAN HO, Sadec—
Fishing boat with net for shrimps or prawns.
Fishing boat with fishing net.
Fishing boat with net in front.
NG VAN VIEN, Sadec.—A small ghe xúóng.
AGRICULTURAL COMMITTEE, Saigon—
Seven fishing baskets.
Fishing basket.
Fishing net.
Cambodgien fishing tackle for catching fish.
Model of a fish gig.
GOVERNMENT, Saigon—
A cast net for sparrow hawks.
A large fishing net.

CLASS CXLVIII.—COLLECTION OF ANIMALS, STUFFED, &C.

DR. TIRANT, Cholon—
Birds from Cochin China, by Dr. Tirant.
A short account of river fish from the district of Hrie in the Annam Province.

CLASS CXLIX.—OTHER NATURAL HISTORY SPECIMENS.

BOTANICAL GARDEN, Saigon—
Botanical collection of forest plants from Cochin China.
Pahudia Cochinchinensis (Go ca tac).
Ficus species (Da).
Species (Sang mau).
Diospyros species (Thi).
Apodytes species (Binh linh gai).
Mitrephora species.
Microtropis species (Ca lan).
Saccopetalum species (Tom xoi).
Chrysophyllum species (Xang bia).
Taraktogenos species (Lo hoi).
Lagertrœmia species (Bang-lang-oi).
Cratoxylon species (Nganh Nganh).
Platea species.
Polyalthia.
Lagerstrœmia species (Bang lang duoc).
Mitrephora species.
Gardenia species.
Randia species.
Vitex species (Binh linh ghe).
Myristica Verrucosa (Sang man).
Nauclea orientalis (Gao).
Xylia dolabriformis (Cam-xe).
Species.
Enmyonimus Hamiltonius.
Species (Son lu).
Species.
Randia species.
Nauclea cordifolia (Tram).
Cinnamomum Zeylandicum (O duoc).
Ochrocarpus species (Tac Tao).
Osmanthus frangrans (Cam da).
Bassia species (Cho-rung).
Terminalia species (Chien lieu).
Nauclea species (Trai).
Dillenia pentagyna (So ba).
Dipterocarpus alatus (Dau con rai).
Sindora Sumatrana (Go mat).
Careya arborea (Vung).
Cratoxylon carneum (Nganh Nganh).
Gardenia species (Vang).
Cratoxylon Cochinchinensis (Nganh Nganh).
Cratoxylon species (Nganh Nganh).
Disoxylon montanum (Ca-gia).
Pterospermum acerifolium (Long mang).
Amoora montana (Goi).
Species (Giang).
Zanthoxylon budrunga (Choi).
Dipterocarpus species (Dau tra ben).
Species (Xang moi).
Diospyros species (Xa mans).
Terretia Javanica.
Vatica species (Sen).
Quercus concentrica (Vo Gie).
Artocarpus integrifolia (Mit).
Calophyllum species (Cong).
Pongamia species (Liem).
Species (Lau Tan nuoc).
Mangifera species (Bui).
Psgronia species (Buf).
Dillenia species (So).
Vatica species (Sen).
Carallia lucida (Sang ma).
Dipterocarpus species (Dau).
Fagraæa fragrans (Xe trai).
Dipterocarpus species (Dau nut).
Artocarpus polyphema (Mit nai).

Pygeum species (Cam).
Dialium ovoideum (Xoay).
Antiaris toxicaria (Chai).
Pterospermum suberifolium (Long mang).
Nephelium species (Truong).
Vatica species.
Eugenia species (Tram xang).
Anisoptera species (Ven ven).
Dipterocarpus species (Dau cat).
Quercus species.
Melia azadirachta (Sau dau).
Careya sphœrica (Vung).
Gordonia species (Vap cat).
Pterospermum semisagittatum (Long mang).
Eugenia species.
Amygdalicera stipulata.
Pentasacme species (Ca chac).
Terminalia species (chieu lieu).
Dillenia species (So).
Garcinia ferœa (Roi).
Bauhinia acida (Tai Tuong).
Cratoxylon species (Nganh nganh).
Semicarpus species (Sang Xang).
Hopea species (Sang ma).
Bouea oppositifolia (Son cha).
Phyllanthus (embellica).
Flacourtia cataphracta (Mong quan).
Ternstrœmia species (Huinh muong).
Engelhardiea species (Huinh muong).
Hopea odorata (Sao den).
Sandoricum nervosum (Sau dau).
Dipterocarpus species (Dau Song nang).
Calophyllum species (Cong tia).
Calophyllum species (Cong trang).
Terminalia species (Chieu lieu xanh).
Vatica species (Sen).
Shorea species (Chai).
Baccaurea sylvatica (Giau rung).
Pygeum species (Vang muong).
Nauclea officinalis.
Machilus odoratissimus (Boi loi).
Species.
Isonandra Krantzii (Chan).
Aquilaria agallocha (Do gio).
Dipterocarpus species (Dau cat).
Dipterocarpus species (Dau).
Schontenia ovata.
Dysoxylum montanum (Ca gia).
Anisoptera species (Ven ven).
Dalbergia species (Trac).
Cinnamomum cassia (Han phat).
Podocarpus species.
Xylopia pubescens (Muong duong).
Schima species (Sang soe).
Artocarpus polyphema (Mit nai).
Shorea species (Ven ven nghe).
Mimusops species (Viet).
Hopea species (Sao).
Spathodea species.
Species (La loa).
Cassia fistulata (Bu cap).
Species (Sam).
Anisoptera species (Ven ven).
Species (Tram den).
Species (Long).
Xylia dolabriformis (Cam xe).
Species (Tram).
Engelhardia species (Huinh duong).
The different species and wanting numbers will be found described and set out in:

GOVERNMENT, Saigon.—Forestial Flora of Cochin China by Mr. Pierre, a work published by the Colonial Government, under the patronage of the Marine and Colonial authorities.

TONQUIN.

SECTION A.—FINE ARTS.

CLASS I.—PAINTINGS AND DRAWINGS.

LALAUDE, Hanoi Custom House Department—
Drawings by Annamites.
Coloured drawings by Annamites.

SECTION B.—EDUCATION AND APPLICATION OF LIBERAL ARTS.

CLASS XII.—PRINTING AND BOOK-BINDING.

GOVERNMENT of Tonquin—
Printing plates in Annamite characters.
Pamphlets containing prayers and rules of Buddha's worship.
Collection of Annamite legends.
Arithmetic for the use of children.

HIS LORDSHIP BISHOP PUGINIER, Western Tonquin—
Bound volumes of religious works in Roman characters.
Bound volumes of religious works in Annamite characters.

BONNAL, FRENCH RESIDENT at Hanoi.—Annamite Code in 12 volumes.

CLASS XIV.—MUSICAL INSTRUMENTS.

LALAUDE, Hanoi Custom House Department.—A wooden Annamite musical instrument with copper strings.

CLASS XV.—SCIENTIFIC INSTRUMENTS.

GOVERNMENT of Tonquin.—Small weighing scales, called in French *romaines*.

SECTION C.—HEALTH.

CLASS XVIII.—DRUGS AND MEDICINES.

GOVERNMENT of Tonquin.—Drugs and medicines.
ROCASERA, Haiphong Custom House Department.—Chinese medicines.

SECTION D.—FURNITURE AND OTHER OBJECTS FOR THE USE OR DECORATION OF DWELLING-HOUSES AND OTHER BUILDINGS.

CLASS XXIII.—FURNITURE AND UPHOLSTERY.

HIS LORDSHIP BISHOP PUGINIER—
- Inkstand with incrustations.
- Pots with covers, lacquered and mother-o'-pearl incrustations.
- Wooden chandeliers, mother-o' pearl incrustations.
- Wooden tobacco pots, mother-o'-pearl incrustations.
- Large oval tray without foot, mother-o'-pearl incrustations.
- Wooden stools, mother-o'-pearl incrustations.
- Box, mother-o'-pearl incrustations.
- Large square tray, mother-o'-pearl incrustations.
- Large oval tray without foot, mother-o'-pearl incrustations.
- Oval middle size tea-boards, mother-o'-pearl incrustations.
- Square middle size tea-board with pedestal, mother-o'-pearl incrustations.
- Square middle size tray with pedestal, mother-o'-pearl incrustations.
- Rectangular box.
- Round box.
- Tea-board, flowers incrusted.
- Do., birds ditto.
- Box, antique incrustations.
- Middle size trunk.
- Round tray.
- Oval do.
- Square do.
- Tray, Chinese design.
- Trays in relievo.
- Square boxes.
- Box in tortoise-shell.
- Crosses.
- Vide-poche with its foot.
- Frames for photos.
- Saucer, Sua wood.
- Tobacco pot, yellow wood, called Gang.
- Tobacco pot, red wood, called Dùdi.
- Tobacco pot, red wood, called Sua.
- Box wood, called Sung.
- Bamboo box.
- Tortoise-shell box.
- Ivory box.

LALAUDE, Hanoi Custom House Department—
- Betel box with fine incrustations.
- Box with very fine incrustations. (The padlock and key are in silver.)
- Tray.
- Glove box with incrustations, ebony wood.
- Deep square tea-board with fine incrustations.
- Large rectangular tray with incrustations, ebony wood.
- Rectangular tray, old incrustations.
- Rectangular trays with fine incrustations.
- Jewelry boxes with fine incrustations in relievo.
- Crosses with fine incrustations in relievo.
- Small tray.

LANGOMAJINO, Head of Marine Department—Inlaid stands.

TRIVEDY, POSTMASTER-GENERAL of Tonquin.—Inlaid box.

BONNAL, FRENCH RESIDENT at Hanoi—
- Old *vide-poche*.
- Inlaid tray.

CABASSE, CHEMIST, FRENCH NAVY—
- Inlaid trays.
- Do. *vide-poches*.

MARTELLIERE, CAPTAIN OF MARINE INFANTRY.—*Inlaid box.*

CLASS XXV.—STONE UTENSILS, POTTERY, PORCELAIN, AND EARTHENWARE.

GOVERNMENT of Tonquin—
- Ordinary flower pots.
- Earthen spittoon.
- Ordinary earthen lime vases.
- Ditto varnished pottery vases.
- Ditto porcelain lime vases.
- Small grit-stone tea-pots.
- Do. in red terra-cotta.
- Do. in black ditto.
- An assortment of plates.
- Ditto of bowls.
- Ditto of saucers.

CLASS XXIX.—BASKETWARE.

GOVERNMENT of Tonquin—
- Baskets of different sizes in rattan.
- Do. in bamboo.
- Straw baskets.
- Water vases.
- Collection of different sizes of bamboo.

CLASS XXXI.—DECORATIVE WORK, INCLUDING CARVING AND ARTWARE.

GOVERNMENT of Tonquin—
- Large and small wooden pagoda statues from the Thuan-Phou pagoda at Hanoi.
- Pagoda arms, lacquered and gilt.
- An assortment of lacquered and gilt boxes.
- An assortment of rattan baskets, lacquered.
- Bamboo baskets, lacquered.

BONNAL, FRENCH RESIDENT AT HANOI—
- Lacquered and gilt Buddhas.
- Small lacquered statues.
- Buddha's throne, lacquered.
- Cense-burner, lacquered.
- Ancient lacquers.
- Round box, lacquered and gilt.
- Rectangular ditto.
- Pagoda cense-burner.
- Do. cud.
- Lacquered and gilt bird.
- Pagoda desk, lacquered and gilt.
- Screens with inscriptions, lacquered and gilt.

CABASSE, CHEMIST, FRENCH NAVY—
- Lacquered and gilt statues.
- Small lacquered and gilt statues.
- Lacquered and gilt boxes.

MARTELLIERE, CAPTAIN OF MARINE INFANTRY—
- Buddha on his seat, lacquered and gilt.
- Small statues, lacquered and gilt.
- Lacquered vases.

TRIVEDY, POST-MASTER-GENERAL.—Lacquered Buddha.

HIS LORDSHIP BISHOP PUGINIER—
- Frames for religious pictures, lacquered and gilt.
- Wooden bouquets, lacquered and gilt.
- Wooden chandeliers, lacquered and gilt.
- Pedestal for crosses, lacquered and gilt.

CLASS XXXII.—CARPETS, HANGINGS, TAPESTRY, FURNITURE, STUFFS, MATTING, PAPER HANGINGS.

GOVERNMENT of Tonquin—
- Silk embroidered carpets.
- Flannel embroidered carpets.
- Embroidered table-cloths.
- Ditto silk hangings.
- Ditto silk valance, gilt.
- Ditto stuffs for cushions.
- Embroidered cushions.
- Mats.
- Valance for altar, emboidered and gilt.

LALAUDE, HANOI CUSTOM HOUSE DEPARTMENT.—Embroidered gilt silk carpets.

CLASS XXXIV.—BRONZES, ORNAMENTAL WORK IN GOLD, SILVER, AND OTHER METALS.

HIS LORDSHIP BISHOP PUGINIER—
- Blighted copper tea-board.
- Ditto foot stove.
- Brass foot stove.
- Do. tobacco pot.
- Blighted copper tobacco pot.
- Ditto box.
- White copper basin, carved.
- Trays, old style.
- Tray, modern style.
- Do., Chinese design.
- Trays, European designs.
- Oval trays, Chinese designs.
- Large candelabras, elephant shape.
- Incense-burner with scole and cover.
- Flower-pot.
- Small elephant with driver.
- Small horses with riders.

Rectangular cense-burner, with socle and cover.
Oval ditto ditto.
Round ditto ditto.
Oval foot stove, with designs on the top.
Spherical ditto ditto.
Rectangular ditto ditto.
Chimeres without socles.
Do. with do.
Cense-burners with socles.
Old cense-burner with designs and without socle and cover.
Square small flower-pots surrounded by two small lizards.
Round flower-pots.
Small birds.
An ancient gong.

CABASSE, CHEMIST, FRENCH NAVY—
Old incense-burners.
Modern ditto
Spherical foot stove.
Old vases.
Modern vases.
Brass gong.

SECTION E.—FABRICS, INCLUDING APPAREL, TOILET REQUISITES, AND OTHER OBJECTS OF PERSONAL WEAR OR USE.

CLASS XXXVIII.—COTTON FABRICS.

GOVERNMENT of Tonquin.—Different sorts of cotton fabrics.

CLASS XL.—SILK FABRICS.

GOVERNMENT of Tonquin.—
Silk La.
Do. The lan.
Do. Luöt.
Do. Luong tron.
Do. Lua.
Do. Soi xe.
Do. Luih, a whole piece.
Do. Dui.
Do. Linh man Lon.
Do. Dia thuy ba.
Do. Luong lac mai.
Do. Luot bung.
Do. Cap tron, a whole piece.
Do. Cap.
Do. Xá-tu.
Do. Sen mau don, flowers.
Do. Min van tam cui.
Do. Nhieu, flowers.
Do. Voi ngu tie, tu hai.
Do. Sa ho diep.
Do. Minh bang qua diep.
Do. Quan ngu xuyen.
Do. Minh bang que tu lan tam.
Do. Van tie nhi.
Do. Luong.
Do. Xuyen tron.
Do. Xuyen hoa nhieu.
Do. Luong quan ngu.
Do. Ninh truu nganh hong con brions.
Do. Trun trien.
Do. The van luc mai.
Unspun silk.
Ditto.
Ditto.
Ditto.
Ditto.
Unspun white silk.
Van hoa lan mai, a whole piece.
Van phuc tho.
Man don qua diep minh lang.
Que van bao.
Qui chi long, a whole piece.
Linh, a whole piece.
White lua hat, a whole piece.
Vai rong, a whole piece.
Luong tam cui.
Ninh trien quan.
Xai tron.
Bang tam hin.
Cop hoa tam cui.
Tai vian huc.
Vou mai canh.
Tu tai mai.
Cup tu tai.
The tam cui.
Nhien tram.
Lugen co do.
Cop hoa nhien.
Luot rog.
Tuang tru.
Com tru.
Luong trion.

HIS LORDSHIP BISHOP PUGINIER.—Pieces of silk from the Tonquinese Laos.

CLASS XLVI.—APPAREL AND HABERDASHERY.

GOVERNMENT of Tonquin—
Suits for men in silk of different colours.
Suits for women in silk of different colours.

CLASS XLVII.—BOOTS, SHOES, AND SLIPPERS.

GOVERNMENT of Tonquin—
Shoes for women.
Wooden shoes.

CLASS XLVIII.—HATS AND CAPS.

GOVERNMENT of Tonquin.—
Mandarin hats.
Hats for men.
Do. women.

CLASS LII.—OBJECTS NOT SPECIFIED.

GOVERNMENT of Tonquin.—Combs for women.

SECTION F.—RAW PRODUCTS AND MANUFACTURES FROM PRODUCTS NOT INCLUDED IN OTHER SECTIONS.

CLASS LIV.—INDIGENOUS TIMBER AND OTHER FOREST PRODUCTS.

GOVERNMENT of Tonquin.—Collection of wood for buildings.

CLASS LVI.—OILS.

GOVERNMENT of Tonquin—
Ly oil.
Sesamum oil.
Cotton oil.
Ground-nut oil.
Castor-oil.
Siccative oil.

CLASS LX.—COTTON, RAW, AND THREAD.

GOVERNMENT of Tonquin—
Raw cotton.
Spun cotton.

CLASS LXII.—SILK, RAW, COCOON, AND THREAD.

White cocoons.
Yellow do.
Raw silk.

CLASS LXIII.—PAPER.

Strong wrapping paper.
Fine ditto.
Note paper.
Wrapping paper.
Coloured paper.
HIS LORDSHIP BISHOP PUGINIER.—
Paper of different qualities.

CLASS LXX.—MATERIALS FOR BASKETS, WICKER AND PLAIT WORK.

GOVERNMENT of Tonquin.—Cotton of different qualities of bamboos.

CLASS LXXIII.—LAC.

GOVERNMENT of Tonquin—
Black lacquer (nearly 7 ounces), Re. 1
Yellow lacquer (nearly 7 ounces), Re. 1.
Red lacquer (nearly 7 ounces), Re. 1.
Orange lacquer (nearly 7 ounces), Re. 1.
Lacquering oil (nearly 7 ounces), As. 12.
Unprepared lacquer of different colours, As. 10.

CLASS LXXVI.—OTHER DYEING AND COLORING MATERIALS.

GOVERNMENT of Tonquin.—Different sorts of dyeing wood.

SECTION G.—MACHINERY AND IMPLEMENTS, MEANS OF TRANSPORT, APPLIANCES AND PROCESSES USED IN THE COMMON ARTS AND INDUSTRIES, INCLUDING MODELS AND DESIGNS.

CLASS LXXXVII.—ARTILLERY ARMS, AMMUNITION, WAR MATERIAL.

HARMAND, GOVERNOR OF TONQUIN.—An Annamite lance.
LANGOMAJINO, HEAD OF MARINE DEPARTMENT.—Samples of Annamite arms.
HIS LORDSHIP BISHOP PUGINIER.—Silver inlaid sword.
LALANDE, CUSTOM HOUSE DEPARTMENT.—Silver inlaid swords.
CABASSE, CHEMIST, FRENCH NAVY.—Annamite arms.

SECTION H.—FOOD PRODUCTS.

CLASS CXII.—SUGAR.

GOVERNMENT of Tonquin—
Qualities of sugar, per maund, Rs. 10
Ditto, ditto, „ 8
Qualities of sugar, per maund, Rs. 7
Ditto ditto „ 6

CLASS CXV.—BREAD STUFFS AND ARTICLES MADE THEREFROM.

GOVERNMENT of Tonquin—
Lua-nep-cuis. A sort of glutinous rice, autumn season; husked rice.
Lua-gi-do. A sort of red rice, autumn season.
Lua-nep-vai. A sort of red rice.

Lua-hom-vang-chiem. A sort of yellowish rice, summer season; husked rice.
Lua-cau-chiem. A sort of summer season rice.
Lua-hom-vang-chiem. A sort of yellowish rice, summer season.
Lua-té-rong. A sort of rice.
Lua-nep-cai. A sort of autumn season rice.
Lua-gioi-oi. A sort of glutinous black mountain rice, autumn season.
Lua-ieh-chiem. A sort of very substantial rice, autumn season.
Lua-nep-cuong. A sort of glutinous rice; husked rice.
Lua-nep-rank. A sort of glutinous rice; husked rice.
Lua-gina-kang. A sort of white mountain rice, autumn season; husked rice.
Lua-nep-cank. A very highly appreciated sort of rice, autumn season; husked rice.
Lua-nep-man. A sort of glutinous rice.
Lue-loe. A sort of dry ground rice, autumn season.
Lua-cank. A sort of rice very white and very highly appreciated.
Lua-nep-leo. A sort of rice.
Lua-hom-chiem. A sort of autumn season rice.
Lua-du. A sort of perfumed rice very highly appreciated, autumn season.
Lua-nep-eo-trui. A sort of glutinous mountain rice, autumn season.
Lua-nep-nang-hai. A sort of glutinous rice.
Lua-nep-giant. A sort of glutinous rice, autumn season; husked rice.
Lua-nep-cuong. A sort of glutinous rice, autumn season.
Lua-re-mioeh-chiem. A sort of summer season rice.
Lua-cut-chiem. Sort of summer season rice.
Lua-nep-rank. Sort of glutinous rice, summer season.
Lua-re-chiem. Sort of mountain rice, summer season.
Lua-nep-nai. Sort of glutinous rice, summer season; husked rice.
Lua-hien. Good quality of rice, autumn season; husked rice.
Lua-nep-raurau. Sort of glutinous rice.
Lua-thong. Sort of mountain rice, autumn season.
Goo-Cut Sort of summer season rice; husked rice.
Lua-can-chiem. Sort of summer season rice; husked rice.
Lua-hiem. Very highly valued rice, autumn season.
Lua-tam. Very white rice, autumn season.
Lua-nep-man. Sort of glutinous rice, autumn season; husked rice.
Lua-nep-give. Sort of glutinous mountain rice, autumn season.
Lua-nep-mua. Sort of glutinous rice, autumn season.
Lua-tam-xan. Sort of mountain rice, summer season.
Lua-hom-chiem. Sort of summer season rice; husked rice.
Lua-re-som. Very precocious rice, summer season.
Lua-reden-chiem. Black rice, summer season.
Lua-tep-chiem. Sort of summer season rice; husked rice.
Lua-tep-chiem. Sort of summer season rice.
Lua-ech-chiem. Sort of summer rice. Inferior quality, but very nutritious.
Lua-nep-ngan muong. Sort of glutinous mountain rice.
Lua-nep-qua. Sort of glutinous rice, autumn season.
Lua-nep-bes. Sort of glutinous rice; husked rice.
Lua-te-rong. Sort of husked rice.
Lua-du. Sort of nicely perfumed rice; very white, excellent quality, autumn season; husked rice.
Lua-nep-rau. Sort of glutinous rice.
Lua-tam. Sort of very white rice, autumn season; husked rice.
Lua-nep-rinrau. Sort of glutinous mountain rice, autumn season; husked rice.
Lua-nep-give. Sort of glutinous rice, summer season.
Lua-nep-nong-háo. Sort of glutinous rice, husked rice.
Lua-re-den-chiem. Black rice, summer season; husked rice.
Lua-re-eom. Precocious mountain rice, autumn season.
Lua-re-bau. Sort of autumn season rice.

Flour.
Rice flour.
Do. starch.
Rice vermicelli.
Haricot flour.
Do. maïs.

CLASS CXXII.—PRESERVED FRUITS AND VEGETABLES.

GOVERNMENT of Tonquin—
Collection of different qualities of haricots.
Oleaginous seeds.
Ground-nut do.
Castor seeds.
Cotton do.
Ly do.
Froût do.
So do.

SECTION I.—AGRICULTURE AND HORTICULTURE.

CLASS CXXXVII.—COLLECTION OF AGRICULTURAL PRODUCTS.

GOVERNMENT of Tonquin.—Different sorts of vegetables.

CLASS CXXXIX.—PROCESSES, IMPLEMENTS, AND MACHINES USED IN CULTIVATION.

GOVERNMENT of Tonquin.—A machine for spinning silk.

SECTION K.—ARCHÆOLOGY AND NATURAL HISTORY

CLASS CXLV.—ARCHÆOLOGICAL COLLECTION.

GOVERNMENT of Tonquin.—Ancient Budas.
HARMAND, GOVERNMENT OF TONQUIN.—Brass plates with silver characters in relievo.
CABASSE, CHEMIST, FRENCH NAVY—
Brass bells.
Ancient incrustations.

CLASS CXLVII.—IMPLEMENTS CONNECTED WITH FISHERY.

GOVERNMENT of Tonquin.—A fishing net.

GERMANY.

SECTION A.—FINE ARTS.

CLASSES I TO VI.

HILDESHEIMER (S.) & Co.—Oleographs.
LEISNER.—Permanent photographs on porcelain.
NORMANN (A.), Dusseldorf.—Oil paintings.
KEEFER (T. W.)—Paintings.

SECTION B.—EDUCATION AND APPLICATION OF LIBERAL ARTS.

CLASSES VII TO XV.

DORNER & SONS (D.), Stuttgart.—Upright grand pianoforte, in solid mahogany.
FEILLER AND WINKELMANN, Brunswick.—Pianos.
GUNTHER AND SONS, Kircheim.—Piano, &c.
HEIZMAN (SIGMUND), Vohrenbech.—Orchestrion.
ROMHILDT (L.), Weimar.—Piano.
ROSENER (F.), Berlin.—Pianos.
SCHIEDMAYER & Co., Stuttgart.—Concert grand piano in mahogany; Mignon grand in mahogany; sympathetic grand; cottage piano; harmonium.
SOUNDY & Co., Stuttgart and Bombay.—Full iron frame sympathetic pianoforte; boudoir pianino, vertical scale.
WELTE AND SON, Baden.—Orchestrions.
ZEITLER AND WINKELMANN, Bramsweig.—Upright cottage piano.

SECTION C.—HEALTH.

CLASSES XVI TO XXII.

SCHWABE (DR. WILLIAM), Leipzig.—Homœopathic medicines.

SECTION D.—FURNITURE AND OTHER OBJECTS FOR THE USE OR DECORATION OF DWELLING-HOUSES AND OTHER BUILDINGS.

CLASSES XXIII TO XXXVII.

BOHNE (ERNST), Söhne, Rudolstadt.—Porcelain goods.
CONSTANTIN (H.) AND Co., Plaine de Walsch, Lorraine.—Watch glasses and watch-maker's glassware.
DAUPHIN (A.A, Stuttgart.—Cork temple and corks.
HEERBRANDT (GOTTL), Raguhn.—Brass wires.
HEYMANN (LUDWIG), 26, Maverstasse, Berlin.—Globes.
KUHNHERT (G.) AND Co., Ernsthal.—Glass, glass toys, marbles, &c.
LOKLER (THEODOR), Mannheim.—Portable wire mattresses.

Mayer'sche kgl Hof Kunstanstalt, München.—Ecclesiastical statues.
Pfutzenreuter (Ludwig). – Chair and mirror manufactures.
Wessel (Ludwig), Bonn.—Porcelain, earthenware, and pottery.

SECTION E.—FABRICS, INCLUDING APPAREL, TOILET REQUISITES, AND OTHER OBJECTS OF PERSONAL WEAR OR USE.

Classes XXXVIII to LII.

Boehm (Gustave), Offenbach.—Soap, perfumery.
Conradi and Friedmann, Limbach.—Shirts and hosiery.
Grossmann (C. G.), Grossröhrsdorf.—Canvas and cloth goods.
Hoermann (Carl), Nurnberg, Bavaria.—Orsidue.
Jean Maria Farina, Julichsplatz, Cologne.—Eau de Cologne.
Kuhn (E.), Drahtfabrik.—Gold and silver wire.
Kuhnert (G.) & Co., Ernsthal.—Pearls.
Pfutzenreuter (E.), Leipzig.—Gloves.
Steiber (John Bath) & Son, Nuremberg.—Copper, brass, silver, and gilt wire; plate, lametta and thread.
Tittel and Kruger, Ragwitz, Leipzig.—Berlin and zephyr wool and other embroidery requisites.
Veech (Theodor), Idar.—Precious stones.
Volkamer's (H. P.), Wme. and Forster, Nuremberg —Orsidue; leaf metal; gold and silver wire, &c.

SECTION F.—RAW PRODUCTS AND MANUFACTURES FROM PRODUCTS NOT INCLUDED IN OTHER SECTIONS.

Classes LIII to LXXXI.

Boehringer and Sorbise, Mannheim.—Chemicals; alkaloid.
Herbing and Lambreghts, Hugo, Berlin.—Aniline colours; dyes.
Horwitz (Jul.), Dresden.—Cigarettes.
Mobins (H.) and Sons, Hanover.—Manufacturers of refined oils for watches, sewing machines, fire-arms, &c.
Oehler (K.), Offenbach.—Aniline dyes and dyed goods.
Radische Anilin and Sodafabrik, Stuttgart.—Aniline dyes and dyed goods.
Veeck (Theodor), Idar.—Onyx.

SECTION G.—MACHINERY AND IMPLEMENTS, MEANS OF TRANSPORT, APPLIANCES, AND PROCESSES USED IN THE COMMON ARTS AND INDUSTRIES.

Classes LXXXII to CIX.

Felton and Guilleaume, *Carlswerk*.—Iron and steel wire fencing and ropes.
Gramer (W.), Saalfeld, Neumegen.—*Sewing machines.*
Grafaw (G. D.), Hamburg.—Lithographic stones; presses; ruling machines for lithographic purposes.
Grimme Nathalis and Co., Brunswick.—Sewing machines.

KONIG AND Co., Kaiserlauten.—Sewing machines.
OPEL MANUFACTURING Co., Frankfort.—Sewing machines.
STIEBER (JOHN BATH) AND SON, Nuremberg.—Insulated wire for electricity.

SECTION H.—FOOD PRODUCTS.

CLASSES CX TO CXXXVI.

BECK AND Co., Kaiser Brewery.—Pilsener beer.
EWALD AND Co., Rüdesheim on Rhine.—Still and sparkling wines.
FREERICKS AND Co., LEIPZIG.—Milk food.
GREVE (PHIL), Stunberg, Born.—Stomach bitters.
HINCKEL AND WINCKLER, Frankfort.—Sparkling moselle and hock.
STEIMBERG (PHILIP G.), Manichrace.—Stomach bitters.
STOLLWERCK BROTHERS, Cologne.—Chocolate and cocoa.
UNDERBERG ALBRECHT, Rheinberg.—Stomach bitters.
VEREINSBRAUEREI, Bergedorf, Hamburg.—Beer in bottle.
VICTORIA BREWERY, Pilsener.—Pilsener beer.
WEIGAND AND ROEB, St. Peters, Nordhausen.—Beer in bottle.

ITALY.

SECTION A.—FINE ARTS.

CLASSES I TO VI.

BARATTA (ARISTIDE), Carrara.—Sculptures.
MILITARY TOPOGRAPHICAL INSTITUTE, Florence.—Photograveures.
RIZZADO (GALLI), Milan.—Marble bust of "Modesty."

SECTION B.—EDUCATION AND APPLICATION OF LIBERAL ARTS.

CLASS XIV.

SANTUCCI (AMBROGIO), Verona.—Musical instruments.

SECTION C.—HEALTH.

CLASSES XVI TO XXII.

BONAVERA (TOMASO), Oneglia.—Medical preparations.
FABBRICA LOMBARDA DI PRODOTTI CHIMCICI, Milano.—Quinine, cinchona alkaloids.

SECTION D.—FURNITURE AND OTHER OBJECTS FOR THE USE OR DECORATION OF DWELLING-HOUSES AND OTHER BUILDINGS.

CLASSES XXIII TO XXXVII.

BISLERI (F.), Milan.—Ferro-China.
BONETTI (L.), Brescia.—China plate.
BOSSI (GAETANO) & FIGLIO, Locarno.—Letter box.
CANDIANI (DR. NAP.), Venice.—Glassware and cabinetware.
DELL' ARA & Co., Milano.—Terra-cotta.
FORNARI (ANTONIO), Rome.—Decorated glass mirrors.
FRATELLI PAGANI (A.) & Co., Milan.—Saws for gold and silversmiths.
GASPARRI (AUGUSTO), Leghorn.—Show case.
GAZZANI (G.), Regio.—Brushes.
GIBELLO (P. G.), Rome and Bombay.—Decorative paintings.
GINDI (M. G.), Florence.—A chiselled silver plate representing the Triumph of Mars.
MANOLI GIOVANNI, Lodi.—A small mantel-piece; two medallions.
MARIO LATINCO, Milan.—Baskets, cups and trays, chiselled silver.
MILANE (CESARE), Fabriano.—Chinaware.
PALME (G.) & Co., Pisa.—Chinaware porcelain.

SALVIATI (D.), Venice.—Glassware and marble statuary. Imitation (16th century glass) venetian candelabra.
SOCIETA CO-OPERATIVA CERAMICA.—China and earthenware.
VACCARI (GINO), Marble Merchant, Leghorn.—Sicilian marble washstand; Sicilian marble bath; samples of marble.
VALSECCHI (MANSUETO), Milan.—Bijouterie.
ZARI (G. B.), Milan.—Metalware and hardwares.

SECTION E.—FABRICS, INCLUDING APPAREL, TOILET REQUISITES, AND OTHER OBJECTS OF PERSONAL WEAR OR USE.

CLASSES XXXVIII TO LII.

BORRELLI (TOMASO).—Coral.
FRANCATI SANTA MARIA.—Cameos, mosaics, corals, silver jewelry.
GALLO (G. B.), Biella.—Hats for ladies and gentlemen.
GIOVANNI CONTI, Montegranero.—Slippers, shoes.
LINGI GENTILE DI RAFFAELE, Torre del Greco.—Corals.
MONEVI (E.), Genoa.—Linen and cotton shirts.
ONETO (DAVID), Genoa.—One spherical coral.
RAFFAELE PRATOLONGO FU RAFFAELE, Genoa.—Coral.
ROCCO MORABITO, Naples.—Coral jewelry, cameos.
SIGISMONDO DE NOTARISE, Naples.—Boats, shoes and slippers.
TACCHI & SALVESTRI, Leghorn.—Corals.
VALSECCHI (MANSUETO), Milan.—Silver jewelry.

SECTION F.—RAW PRODUCTS AND MANUFACTURES FROM PRODUCTS NOT INCLUDED IN OTHER SECTIONS.

CLASSES LIII TO LXXXI.

BEIZI (ANTONIO), Perugia.—Olive oil.
CARLI ANGELO & FIGLI, Porto Maurizio.—Olive oil.
CHIOZZI & TURCHI, Pontelagoscuro, Venice.—Emolient soap.
CINOTTI (ANTONIO), Siena.—Olive oil.
CONTI (E.) & FIGLI, Leghorn.—Soaps.
FENZI (A.), Florence.—Olive oil.
FORNARI (A. & G. B.).—Coloured skins tanned with sumach and oak bark, speciality in coloured and morocco, sheep and goat skins, black, light and chéqué hand manufactured paper.
GAZZANO (A.), Porto Maurizio.—Olive oil.
GIULI (ALBERTO), Pisa.—Samples of olive oil.
LANZA (FRATELLI), Turin.—Candles and soap.
MATERI (F. P.), Grassano.—Olive oil.
MIMBELLI (G. L.), Monsummano.—Olive oil.
PANNELLI (GUISEPPE), Macerata.—Matches.
SILVESTRI (G.), Lucca.—Paper.
TOMMASO BONAVERA.—Syrups.

SECTION G.—MACHINERY AND IMPLEMENTS, APPLIANCES, AND PROCESSES USED IN THE COMMON ARTS AND INDUSTRIES, &c.

CLASSES LXXXII to CIX.

FRATELLI PAGANI & Co., Milan.—Saw for gold and silver smiths.
IZAR (G. B.), Milan.—Electroplating.
SOCIETA CERAMICA RICHARD, Milan.—Porcelain.

SECTION H.—FOOD PRODUCTS.

CLASSES CX TO CXXXVI.

BATTISTELLA (G.), Milan.—Liqueurs.
BENEDETTO OZZOLA, Milan.—Butter.
CASELLI (RAFAELLE), Rome.—Italian wines.
CERRI (LUIGI), Cremona.—Almond cakes.
CINOTTI (ANTONIO), Siena.—Samples of wine.
DE SENA (ELIA), Naples.—Liqueurs.
FACCIOLI (A.) & Co., Milan.—Italian butter.
FATTORIA FENZI, Florence.—Italian wines.
FERNI (A.) Florence.—Samples of Tuscan wine.
FRANCESCO CINZANO.—Vermouth.
FRATELLI CERRUTI, Genoa.—Wines and vermouth elixir, cocoa-bolivara.
GARIBALDI AND CRESTA, Genoa, Milan.—Butter.
GUSCETTI DE BENEDETTO E. OZZOLA, Milan.—Butter.
MALFETTANI & Co., Sampierdarena.—Cognac and other liqueurs.
MATERI (CAV. F. P.), Grassano.—Oils and cheese. Agents, F. Acerboni & Co., Calcutta.
MORANDO GIOVANNI FU IGNAZIO, Sampierdarena.—Liqueurs; brandy.
NAVIGAZIONE GENERAL SOCIETA ITALIANA, Florence.—Salt.
PIETROGRANDE ANTONIO, Este.—Confectionery.
SAVJ (B.), Turin.—Wine (Barolo).
SCALA (GIUSEPPE), Naples.—Wine and liqueurs. Vine creeper and tree holding wine.
SOGNO (BERNARDO), Turin.—Tinned provisions, pickles, &c.
TOMASO BONAVERA, Oneglia.—Syrups and liqueurs.
VITALI EGIDES.—Italian sparkling wines.
ZEDDA AND ROUCHETTI, Cagliari.—Italian wines.

JAPAN.

SECTION A.—FINE ARTS.

CLASSES I TO VI.

STILLFRIED AND ANDERSEN, Yokohama.—Photographs of Japanese scenery and figure types.

SECTION D.—FURNITURE AND OTHER OBJECTS FOR THE USE OR DECORATION OF DWELLING-HOUSES AND OTHER BUILDINGS.

CLASSES XXIII TO XXXVII.

KUHN AND CO., Yokohama.—Satin and corded silk embroidered curtains; gold-brocaded table-cloths; brocaded satin quilts.

Specimens of Satsuma, Smari, Kinshin, Kutani and Tokis porcelain ware, ancient and modern; comprising vases, bowls, plates, figures, tea-sets, jars, &c., in all the various styles of decoration.

Ivory inlaid and lacquered vases, ivory carvings, elephant carved in jade, wood-carvings, specimens of Japanese lacquer, antique and modern, including cabinets; screens, panels, writing-boxes, trays, medicine-boxes, cups and stands: many of these exhibits are inlaid with ivory and tortoise-shell.

Specimens of urns, incense-burners, candelabra, vases, statuettes, brasiers; figures of birds and animals, jewel boxes, idols, hibashi, tea-jars, water-jugs, &c., in bronze and iron, carved and inlaid, ancient and modern.

Richly embroidered satin hangings of large size.

Specimens of Japanese cloisonne ware, including vases, plates, tea-jars, jewel-boxes, and plaques.

(Many of these exhibits are of unusual size and exquisite workmanship, by celebrated Japanese artists.)

SECTION E.—FABRICS, INCLUDING APPAREL, TOILET REQUISITIES, AND OTHER OBJECTS OF PERSONAL WEAR OR USE.

CLASSES XXXVIII TO LII.

KUHN AND CO., Yokohama.—Silk robes or girdles, silk dressing gowns, silk smoking jackets, silk embroidered smoking-caps, crape shawls, silk and crape embroidered robes.

NETHERLANDS.

SECTION F.—RAW PRODUCTS AND MANUFACTURES FROM PRODUCTS NOT INCLUDED IN OTHER SECTIONS.

CLASSES LIII TO LXXXI.

KAULEN (G. W.) AND Co., Helmond.—Turkey red yarn.
KUTULN AND Co., Helmond.—Dyes.
NEDERLAND YEAST AND SPIRIT MANUFACTORY, Delft.—Spirits of wine.
SWINKELS (W.), Helmond.—Turkey red yarn.

SECTION H.—FOOD PRODUCTS.

CLASSES CX TO CXXXVI.

BENSDORF AND Co., Amsterdam.—Cocoa.
BLANKENHEIM AND NOLET, Rotterdam.—Geneva.
FABRIC VON MELT PRODUCT, Vlaardingen.
FOCKINK (F.), Amsterdam.—Liqueurs, &c.
HAAGSCHE MARGARINE BOTER FABRICK, The Hague.—Butterine manufacture.
HOLLANDIA CONDENSED MILK MANUFACTORY Co., Delft.—Condensed milk.
NETHERLAND YEAST AND SPIRIT MANUFACTORY, Delft.—Imperishable yeast in tins.
NOLET (A. C. A.).—Aromatic schnapps.
RADEMAKERS AND Co., Helmond.—Geneva.
WYNAND FACHING, Amsterdam.—Liqueurs.

NETHERLANDS INDIA.

SECTION A.—FINE ARTS.

CLASSES I TO VI.

BATAVIA COMMITTEE.—Photographs of the district of Docjokarta and of the Boro-Budor Buddhist temple in Java by Kinsbergen. Pictures of the Boro-Budor Buddhist temple in Java by Dr. Leeman and Mr. T. C. Wilson.

WISELIUS (J. A. B.).—Collection of ethnological photographs, illustrating the different races of the Indian Archipelago.

SECTION B.—EDUCATION AND APPLICATION OF THE LIBERAL ARTS.

CLASSES VII TO XV.

BATAVIA COMMITTEE.—Maps of Java with scale of distances, of district of Kediri, of different districts in Java, trigonometrical map of Batavia, maps of districts in Java exhibited as proofs of proficiency in drawing by Raden Soero Oekara.

BILLITON TIN COMPANY.—Map of the island of Billiton with explanatory notes; list of all the tin mines worked at present and in former times.

KROON (J. H.), Batavia.—Military distance map of Java; land registration map of Batavia, made by native workmen.

PADANG SUB-COMMITTEE.—Set of musical instruments called *gamelan*.

SECTION D.—FURNITURE AND OTHER OBJECTS FOR THE USE OR DECORATION OF DWELLING-HOUSES AND OTHER BUILDINGS.

CLASSES XVI TO XXXVII.

BATAVIA COMMITTEE.—Wooden figure mounted on a pedestal, representing a Javanese nautch-girl in her usual attire. Specimens of Palembang lacquered furniture, consisting of two sofas and two chairs.

BILLITON TIN COMPANY.—Articles of Billiton native manufacture. A set of the old Javanese theatrical and mythological shadow puppet shows.

PADANG SUB-COMMITTEE.—Household furniture from Western Sumatra. Native filigree work.

PECOULT AND BUFFET.—Samples of plaited work made from the fibre of the Hibiscus Telearcus tree.

SAMARANG SUB-COMMITTEE.—Household furniture in Central Java.

SECTION E.—FABRICS, INCLUDING APPAREL, TOILET REQUISITES, AND OTHER OBJECTS OF PERSONAL WEAR OR USE.

CLASSES XXXVIII TO LII.

BATAVIA COMMITTEE.—Umbrellas used by natives as marks of rank and distinction. Javanese dresses, slippers, and sandals. Javanese sarongs (*saris*).
PADANG SUB-COMMITTEE.—Native woven sarongs (*slendangs*) and head-dresses.
PECOULT AND BUFFET.—Imitation straw hats made of bamboo.

SECTION F.—RAW PRODUCTS AND MANUFACTURES FROM PRODUCTS NOT INCLUDED IN OTHER SECTIONS.

CLASSES LIII TO LXXXI.

BATAVIA COMMITTEE.—Slab of Banca tin. Samples of Kadu tobacco. Samples of indigo, of rameh rope, and other raw products.
BILLITON TIN COMPANY.—Slab of Billiton tin. Sixty-three phials containing samples of tin ore obtained from different mines in 1882. Lump of rock-ore weighing 67 lbs. Lump of sandstone embedded in quartz. Sandstone ball with descriptive note.
DELI TOBACCO COMPANY.—Samples of Deli tobacco.
DELI MAATSCHAPPIJ, Sumatra.—Tobacco leaf.
DE STURLER (JHR. W. E.), Tjiomas, Java—
Samples of Chinchona Calisaya Javanica.
„ „ „ Schuhkrufft.
„ „ Culoptera.
„ „ Hlaskarliana.
„ „ Lancifolia.
„ „ Ledgeriana.
„ „ Mirantha.
„ „ Officinalis.
„ „ Pahudiana.
„ „ Succirubra.
PADANG COMMITTEE—
Samples of mats.
„ Cassia vera.
„ Gum dammar.
„ Gum benzoin.
„ Gutta susu.
„ India-rubber.
„ Rattans.
SAMARANG SUB-COMMITTEE.—Samples of Kadu tobacco.
SURABAYA SUB-COMMITTEE.—Samples of raw products.
VAN BUBREN (R.), Bodja, Java.—Samples of Kadu cigars.
VAN ENDE, Tjipantjor, Java.—Samples of cinchona.

SECTION G.—MACHINERY AND IMPLEMENTS, MEANS OF TRANSPORT, APPLIANCES AND PROCESSES USED IN THE COMMON ARTS AND INDUSTRIES.

CLASSES LXXXII TO CIX.

BATAVIA COMMITTEE.—Plans of military barracks, kitchens, lavatories in use in Netherlands, India. Model of a teak-wood bridge in Sumatra.

DECLEMAN (T.).—Javanese and Sumatra tonga carriages.
PADANG SUB-COMMITTEE.—Blocks to stamp rice in and to grind rice in.
RADEN ADIPATI SOSRONEGORO, Surakarta, Java.—Models of different kinds of Javanese boats. Models of carriages in use in the Netherlands India Archipelago.
SAMARANG SUB-COMMITTEE.—Collection of tools and implements illustrating certain branches of native industry in Central Java. Model of an indigo factory.
SOURABAYA SUB-COMMITTEE.—Collections of tools and implements illustrating native domestic life in general and certain branches of industry in eastern Java.
WISELIUS (J. A. B.).—Models made by natives of boats from Samarang, of native houses in Western Java, of a native house in Central Java, of the mosque at Samarang.

SECTION H.—FOOD PRODUCTS.

CLASSES CX. TO CXXXVI.

BATAVIA COMMITTEE.—Coffee, sugar
DE STUERLER (JHR. W. E.), Tjiomas, Java.—Paddy, rice, arrowroot, "Keray" sago, tapioca, tea, coffee, cloves, nutmegs, mace, Ceylon and China cinnamon.
HOLLE (ALB.), Tjirohani, Java.—Tea, coffee, palm sugar, vanilla, cloves, nutmegs, mace, cocoa.
MACLAINE, WATSON AND CO., Batavia.—Rice, meal, arrowroot, tea, vanilla, cloves, mace, Java and China cinnamon from the Dramoga estate. Rice, tea, vanilla from the Nangoeng estate. Nutmegs. Coffee from the Nangoeng estate.
MUNDT (G.), Parakan Salak, Java.—Tea.
PADANG COMMITTEE.—Nutmegs, mace.
PADANG SUB-COMMITTEE.—Cloves.
PHILLIPEAN (T. C.), Tji Salak, Java.—Tea and coffee.
SAMARANG SUB-COMMITTEE.—Coffee.
SAYERS (T.), Gemu, Java.—Sugar.
SOURABAYA SUB-COMMITTEE.—Preserves.
TELOK POETJONG ESTATE.—Husked rice.
VAN MAANEN, Java.—Coffee.

SECTION I.—AGRICULTURE AND HORTICULTURE.

CLASSES CXXXVII TO CXLIII.

SAMARANG SUB-COMMITTEE.—Collection of agricultural and horticultural tools and implements from Eastern Java.
SOURABAYA SUB-COMMITTEE.—Collection of agricultural and horticultural tools and implements from Central Java.

SECTION K.—ETHNOLOGY, &c.

CLASSES CXLIV TO CXLIX.

SOURABAYA SUB-COMMITTEE.—Implements for fishery in Eastern Java.

NORWAY.

SECTION F.—RAW PRODUCTS AND MANUFACTURES FROM PRODUCTS NOT INCLUDED IN OTHER SECTIONS.

CLASSES LIII TO LXXXI.

HLIORTH, Kristiana.—Matches.
JOELSEN (H.), Kristiana.—Matches.
NITEDALS TAENSTIKFABRIK, Kristiana.—Matches.

PORTUGAL.

SECTION H.—FOOD PRODUCTS.

CLASSES CX TO CXXXVI.

MACKENZIE, DRISCOLL & Co., Oporto.—Port wine.

MADEIRA.

SECTION H.—FOOD PRODUCTS.

CLASSES CX TO CXXXVI.

CASSART GORDON & Co., Madeira and London.—Madeira wine.
DRU DRURY (H.).—Madeira wine.

SPAIN.

SECTION H.—FOOD PRODUCTS.

CLASSES CX TO CXXXVI.

MACKENZIE & Co., Jerez de la Frontera.—Sherry wine.
DE MONTEBELLO & Co. (ALFRED).—Champagne wine.

PHILLIPINE ISLANDS.

SECTION F.—RAW PRODUCTS AND MANUFACTURES FROM PRODUCTS NOT INCLUDED IN OTHER SECTIONS.

CLASSES LIII TO LXXXI.

"EL ORIENTE" Fabrica de Tobacos, Sociedad Anonima, Manilla.—Manilla cigars.

SWEDEN.

SECTION F.—RAW PRODUCTS AND MANUFACTURES FROM PRODUCTS NOT INCLUDED IN OTHER SECTIONS.

CLASSES LIII TO LXXXI.

OREBRO TAENDSTIKFABRIK, Orebro.—Matches.

SWITZERLAND.

SECTION A.—FINE ARTS.

CLASSES I TO VI.

KUNZLI BROS., 10, Leidenhofe, Zurich.—Oleographs.

SECTION B.—EDUCATION AND APPLICATION OF LIBERAL ARTS.

CLASSES VII TO XV.

ANGLO-SWISS TOURISTS' EQUIPMENT CO., Herison.—Alpine literature and maps.
BORNAND (J.) AND HOESLI.—Musical boxes.
HUNI AND HERBERT, ZURICH.—Pianos.
KARRER (S.), Teufenthal.—Musical boxes.

SECTION C.—HEALTH.

CLASSES XVI TO XXII.

INTERNATIONAL BANDAGE CO., Schafthouse.—Antiseptic surgical appliances and other materials for wound-dressing and hygienic purposes.

SECTION D.—FURNITURE AND OTHER OBJECTS FOR THE USE OR DECORATION OF DWELLING-HOUSES AND OTHER BUILDINGS.

CLASSES XXIII TO XXXVII.

BACKSHMID, Roskopf, Berne.—Watches.
CHARPIE & Co.—Watches.
COURVOISIER & Co., Chaux-de-Fonds.—Watches.
COURVOISIER FRERES, Chaux-de-Fonds.—Watches.
FAVRE, LEUBA & Co., Locle, Calcutta, and Bombay.—Clocks and watches.
PATEK, PHILIPPE & Co., Geneva.—Watches.
SCHÖCHLINS, W.—Watches.

SECTION E.—FABRICS, INCLUDING APPAREL, TOILET REQUISITES AND OTHER OBJECTS OF PERSONAL WEAR OR USE.

CLASSES XXXVIII TO LII.

ANGLO-SWISS TOURISTS' EQUIPMENT Co., Herison.—Pocket handkerchief marked with colored embroidery, Swiss Alpine equipment.
ROSE & Co. (A.), Chemnitz.—Hosiery.

SECTION G.—ARMS, &c.

CLASS LXXXVII.

RAMSAUER (ARNOLD), Herison.—Arms and ammunition.

TURKEY.

BICHARA, MICHEL & Co., Jerusalem.—Collection of Palestine articles.
WARDE (H.), Constantinople.—Collection of Turkish carvings, beads, &c.

UNITED STATES OF AMERICA.

SECTION A.—FINE ARTS.

CLASSES I TO VI.

CURRIER AND IVES, Nassau Street, New York.—Views of American cities.
GOVERNMENT PRINTER, Washington, D. C.—Engraving, lithography, &c., as contained in the reports of the United States Commissioners at the Paris Universal Exposition.
LOCKWOOD (HOWARD), New York.—Photo-electrotyping.

SECTION B.—EDUCATION AND APPLICATION OF LIBERAL ARTS.

CLASSES VII TO XV.

AMERICAN MAIL AND EXPORT JOURNAL, New York.—Printing and wood-engraving.
AMERICAN STATIONER, New York.—Trade publication.
COLTON (G. W.) AND CO., William Street, New York.—Maps of the world.
FABER (EBERHARD), Canagoharie, New York.—Pen-holder and pencil-cases, and India-rubber goods.
FAIRCHILD (LE ROY W.), 18, John Street, New York.—Gold pens, gold and silver pencil-cases, charms, &c.
JUVET AND CO., Canagoharie, New York.—Dead globes and relative time globes; Fellurnam.
LOCKWOOD (HOWARD), New York.—Publications and printing.
MASON AND HAMLIN.—American organ.
MILLER'S JOURNAL AND FLOUR AND GRAIN REPORTER, New York.—A trade publication.
MILLER, MILLWRIGHT AND MILLFURNISHER, New York.—A trade journal.
PAPER TRADE JOURNAL, New York.—A trade journal.
SHIPMAN (ASA. L.) AND SONS, 10, Murray Street, New York.—Adhesive letter and invoice files and scrap books.
SMITH AND SONS.—Parlour organs.
WARREN AND CO., Moses, Chicago.—Hill's Manual of Social business forms.

SECTION C.—HEALTH.

CLASSES XVI TO XXII.

BALLANTINE (H.).—Medicinal preparations.
CHARLES A. VOGELER COMPANY, Baltimore Street.—Jacobs' oil—a pain-curing remedy and healing appliance.
FELLOWS MANUFACTURING CO., New York.—Fellow's syrup of hypophosphates.
LANMAN AND KEMP, New York.—Bristol pills, sarsaparilla.
LAWTON AND CO., Boston, Mass.—Absórbent cotton-wool for medical purposes.
LEONARD AND ELLIS, New York.—Valvoline.
MCKISSEN AND ROBBINS, New York.—Copaiba pills.
PERRY DAVIS AND SON, Providence, Rhode Island.—Pain-killer.

REMINGTON (PROF. J. P.), Philadelphia.—Pharmaceutical still.
SANDERS AND CO., Eno Street, Louis Mo.—Veterinary medicine chest for troop horses.

SECTION D.—FURNITURE AND OTHER OBJECTS FOR THE USE OR DECORATION OF DWELLING-HOUSES AND OTHER BUILDINGS.

CLASSES XXIII TO XXXVII.

ATWOOD SAFETY NUT CO., Springfield.—Safety nuts for screws, &c.
DAVENPORTS, LD., Longport, Boston.—Modern Crown Derby china-ware.
EAGLE METALLIC BRUSH CO., Boston.—Metallic hair brushes.
HARTSHORN (STEWART), Broadway, New York.—Self-acting shade rollers, spring map-rollers.
JAY G., WEMPLE AND CO., 446, Pearl Street, New York.—Window shades.
PATERSON (J. F.), Bridgport, Conn.—"The Patterson organs."

SECTION E.—TOILET REQUISITES.

CLASSES XXXVIII TO LII.

LANMAN AND KEMP, New York.—Florida water.
YOUNG LADD AND COFFIN, New York.—Lundborg's perfumery.

SECTION F.—RAW PRODUCTS AND MANUFACTURES FROM PRODUCTS NOT INCLUDED IN OTHER SECTIONS.

CLASSES LIII TO LXXXI.

BLACKWELL (W. T.) AND CO., Durham.—Long cut tobacco.
TENNANT (D. B.) AND CO., Virginia.—Tobacco.
WESTON, (HON. BYRON), Dalton, Mass.—Linen record and ledger paper.
WHITING PAPER & Co., Holyoake, Mass.—Machine and hand-made paper.

SECTION G.—MACHINERY AND IMPLEMENTS, APPLIANCES AND PROCESSES USED IN THE COMMON ARTS AND INDUSTRIES.

CLASSES LXXXII TO CIX.

DOMESTIC MANUFACTURING CO., New York.—Sewing machines.
ENTERPRISE MANUFACTURING CO., Philadelphia.—Enterprise tincture press.
GOULD'S MANUFACTURING CO., Seneca Falls, New York.—Pumps of various kinds.

MILLS (COL. ANSON, U. S. A.), Washington, D. C.—Woollen woven cartridge belts for army and sporting purposes.
RAILWAY BARB FENCING Co., Cleveland, Ohio.—Steel barb fencing wire.
SINGER MANUFACTURING Co., New York.—Sewing machines.
STEERS (S. B.), New York.—Model of the new Morse cotton compresser.

SECTION I.—AGRICULTURE AND HORTICULTURE.

AVERY AND SONS (B. F.), Louisville, Ky.—Ploughs.

J. E. S.—Reg. No. 4741J—2012—23-2-85.

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OMISSIONS AND ERRATA.

(*See* Commissioners and Committees, page xi.) *For* H. B. Hanlon, Esq., *read* J. W. Hanlon, Esq.

(*See* Commissioners and Committees, page xii.) *For* H. Mowat, Esq., *read* M. Mowat, Esq.

(*See* Commissioners and Committees, page xiii.) Sub-Commissioner from Bombay, D. Macdonald, Esq., M.D.

(*See* List of Awards, Part I, page 451.) An award of a *first class certificate* with a *silver medal* to Messrs. *Smith, Stanistreet & Co., Calcutta,* for *Carbolic powders.*

(*See* List of Awards, Part I, page 460.) An award of a *first class certificate* with a *silver medal* to the *Bellary Spinning and Weaving Company, Limited, Bellary,* for *A collection of cotton in its raw state and in its various stages of preparation.*

(*See* List of Awards, Mysore, page 464.) An award of a *fourth class certificate to* Messrs. *Riggs & Co., Bangalore.*

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on 05 October, 2018